Instructions for the Researcher Web site for:

ASA24™-2014, ASA24™-Kids-2014, and ASA24™-Canada-2014

Updated December 2014

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1. About ASA24™

The interviewer-administered 24-hour recall (24HR) has long been regarded as the best methodology to measure food intakes for dietary surveillance, nutritional epidemiology, clinical research, and intervention research because it provides the highest-quality and least biased dietary data for a single day. This method allows collection of detailed intake and portion sizes, and, because the data collection occurs after the consumption, does not affect what an individual chooses to eat on a given day. The close proximity in time to the intake day minimizes memory and cognitive issues that afflict other methodologies. However, the cost involved in conducting 24HR has been prohibitive for many research studies.

ASA24™ was developed to permit unannounced, automated, and self-administered 24HR, enabling the administration of multiple recalls in large-scale epidemiologic studies, surveillance studies, behavioral trials, or clinical research, thus enhancing researchers' ability to assess usual dietary intakes. The format and design of ASA24™ are based on a modified version of the interviewer-administered Automated Multiple-Pass Method (AMPM) developed by the U.S. Department of Agriculture (USDA).

ASA24™ consists of a Respondent Web site and a Researcher Web site. The Respondent Web site allows Respondents to report their intake for either the previous day from midnight to midnight or the past 24 hours. The application:

- Provides an animated guide to instruct Respondents and enhance use in low-literacy populations (with options to turn off the guide and/or the audio and to replay previous instructions);
- Asks Respondents to report eating occasion and time of consumption;
- Asks Respondents to provide a meal-based "quick list" of foods and drinks consumed the previous day;
- Allows Respondents to find foods or drinks consumed by browsing food groups or searching from a list of food terms derived from USDA’s AMPM;
- Guides Respondents through detailed questions about food preparation and additions to allow assignment of food codes from USDA’s Food and Nutrient Database for Dietary Studies (FNDDS);
- Uses images to assist Respondents in reporting portion size;
- Allows Respondents to add or modify food and drink choices at multiple times during the interview;
- Allows Respondents to add commonly consumed foods to a list of favorites for future recalls;
- Includes a final review of the day's intake;

- Allows collection of data about foods and drinks consumed the previous day from midnight to midnight or the past 24 hours, depending on study settings specified by the Researcher;
- Includes optional modules to query about where meals were eaten, sources of foods and drinks, with whom Respondents ate, and television or computer use during meals;
- Includes an optional module to query about dietary supplement intakes based on supplements reported in the 2007-08 National Health and Nutrition Examination Survey (NHANES);
- Is available in English and Spanish (for ASA24™-2014 and ASA24™-Kids-2014); and
- Allows for accessibility by individuals with speech and hearing impairments.

Respondents are guided through the 24HR using a modified version of the AMPM. The steps in the interview process include:

- Meal-based quick list;
- Meal gap review;
- Detail pass;
- Forgotten foods;
- Final review;
- Question about whether the day's intake was usual or not; and
- Supplement module (if selected by the Researcher).

The current versions of the ASA24™ Respondent Web site are:

- ASA24™-2014 (released February 2014); and
- ASA24™-Kids-2014 (released February 2014)
- ASA24™-Canada-2014 (released April 2014).

Previously released versions (ASA24™-2011 and ASA24™-Kids-2012) are no longer available for the creation of new studies; in early 2015, they will be completely retired and no longer available for use. Additional details will be provided to Researchers with studies registered to these versions of ASA24™ in advance of the sites and the corresponding data becoming unavailable.

For additional information about ASA24™ and the Respondent Web sites, please visit the National Cancer Institute's ASA24™ Web site (http://riskfactor.cancer.gov/tools/instruments/asa24/).

The remainder of this document provides detailed instructions on the use of the ASA24™ Researcher Web site, which allows Researchers to register a study and its Respondents, set study parameters (e.g., number of recalls, number of attempts per recall, time to complete a

recall), manage study logistics, and obtain analytic files. This document is specific to the Researcher Web site for ASA24™-2014, ASA24™-Kids-2014, and ASA24™-Canada-2014. Instructions for the previous version of the Researcher Web site are available online (http://appliedresearch.cancer.gov/tools/instruments/asa24/).

2. Key Considerations for Researchers

Note: Definitions for ASAS24-specific terms and abbreviations can be found in the Key Terms section at the end of this document; in the following section, the first occurrence of each key term is linked to its definition in the Key Terms section.

How much does it cost to use ASA24™?

ASA24™ is available at no cost to researchers, clinicians, and teachers. Costs that might be incurred by users in conducting a study that makes use of ASA24™ include those associated with organizing and uploading study details (e.g., respondent usernames and Intake Dates), contacting and monitoring Respondents, data quality assessment, and data analysis and dissemination.

How can a Researcher gain access to ASA24™?

A researcher, clinician, or teacher who wishes to use ASA24™ must create a Researcher account before setting up a new study. To create a new user account, Researchers must provide some basic information: name, organization, phone number, and email address. All Researchers must read and accept the ASA24™ Researcher Agreement before creating an account. Upon accepting the Agreement and completing the account creation form, the Researcher will receive an email with instructions on setting the account password. Once the password has been chosen, a new study may be registered.

What documentation is available for Researchers interested in using ASA24™?

General information about ASA24™ is available on the National Cancer Institute's (NCI) ASA24™ Web site (http://riskfactor.cancer.gov/tools/instruments/asa24/). This Web site includes helpful resources, such as Frequently Asked Questions (FAQs), documents that can be used for funding and ethics proposals and with study respondents, a list of known issues and workarounds, and links to relevant publications.

In addition to this Researcher Web site instruction document, sample Analytic Files and Data Dictionaries that enable Researchers to view the nature of the output provided by ASA24™ are available for download from the NCI Web site and the Researcher Web site home (http://riskfactor.cancer.gov/tools/instruments/asa24/). The Data Dictionaries are included in Appendices C-J of this document. A Listserv that allows current and potential users to communicate with other ASA24™ users is also available (https://list.nih.gov/cgi-bin/wa.exe?A0=ASA24-L).

How can a Researcher test or pilot the ASA24™ system?

A demonstration version allows any interested user to complete a recall using the Respondent Web sites (https://asa24.nci.nih.gov/Demo.aspx). The demonstration versions can be

completed in English or Spanish (for ASA24™-2014 and ASA24™-Kids-2014). Please note that it does not provide any analysis file output.

Access to the full ASA24™ system requires creating a Researcher user account and registering a study. Once a study is set up and Respondent Accounts are created, login information for a demonstration (Demo_User) account for the Respondent Web site will be available in the first Username and Password file. Researchers can use the Demo_User Account to familiarize themselves with the recall process and to verify customizations made to the Respondent Web site (e.g., study logo, welcome screen text, selection of optional modules) during study setup (see Setting Up a Study). Data entered using the Demo_User Account will not be saved and will not appear in output files available from the Researcher Web site.

To extensively test ASA24™, including entering 24HR data on the Respondent site and viewing reports and output, Researchers may wish to set up test user accounts for the Respondent Web site. This can be done by specifying StudyIDs that are reserved for testing purposes (Note: if specific StudyIDs are set up for testing, it is important to ensure that these StudyIDs are tracked, as any data entered using a valid username and password for the study will appear in the output available from the Researcher site and will need to be deleted prior to further analysis—as such, it may be helpful to use a distinct range of StudyIDs compared to those that will be used for Respondents). Please conduct such testing within the context of an existing study, rather than setting up a separate study whenever possible. Please see Setting Up a Study for further information on creating Respondent Accounts into ASA24™.

Can ASA24™ be used with individuals of all ages?

ASA24™ was initially developed for use with adults. There is also a version of the Respondent Web site (ASA24™-Kids) that has been modified for use with children ages 10 years and older. To make the software user-friendly and appealing for this age group, this version includes a shorter list of foods and beverages from which to choose; this list is based on National Health and Nutrition Examination Survey (NHANES) recall data for children. It asks fewer detailed questions about food preparation, which leads to more default coding of foods using the Food and Nutrient Database for Dietary Surveys (FNDDS) version 4.1. More information on the ASA24™-Kids Respondent Web site can be found at http://riskfactor.cancer.gov/tools/instruments/asa24/respondent/childrens.html.

Researchers must choose the version of ASA24™ to be used when a new study is set up. For studies in which Researchers wish to use multiple versions of ASA24™ (e.g., ASA24™ with adults or older children and ASA24™-Kids with younger children), separate ASA24™ studies must be registered for each version. Both ASA24™- and ASA24™-Kids can be completed in English or Spanish – Respondents will be prompted to choose a language upon successful login to the ASA24™ Respondent Web site.

What sample size can be accommodated by ASA24™?

ASA24™ was designed to manage multiple, large epidemiologic studies simultaneously. Should a Researcher wish to use ASA24™ for a very large study (i.e., thousands of Respondents), it is advisable to arrange the timing of recalls so that not all Respondents are scheduled to access the system simultaneously. In Scheduled studies, recalls can be staggered or staged automatically to allow for this functionality; stages can be established using the Respondent Accounts Wizard (see Setting Up a Study).

How will study Respondents be notified about visiting the ASA24™ Respondent Web site to complete their recalls?

It is the responsibility of the Researcher to contact Respondents to provide the URL for the ASA24™ Respondent Web site, usernames and passwords to access the site, and details about dates to complete their recalls. NCI will not have access to any contact or identifying information for study Respondents.

Usernames for study Respondents will be generated by ASA24™ based on the study abbreviation specified by the Researcher during study creation. Passwords can either be provided by Researchers or generated by ASA24™. Respondents' usernames and passwords will be available for download from the Researcher Web site once Respondent Accounts have been created.

Who will need access to the ASA24™ Researcher Web site to manage a study?

Any study staff who will be involved in managing study logistics, overseeing Respondent progress, and requesting reports and analytic files will need a username and password to access the Researcher Web site. Researchers can add or remove study staff at any time; usernames and passwords will be e-mailed to staff.

Will my study involve Scheduled or Unscheduled recalls?

ASA24™ permits both Scheduled and Unscheduled (or ad hoc) administration of 24HRs. Researchers will need to decide whether to use Scheduled or Unscheduled recalls before creating Respondent Accounts and before any Respondents can begin completing recalls.

> ***It is important to note that, once Respondent Accounts have been created, a study cannot be changed from Unscheduled to Scheduled or from Scheduled to Unscheduled. To make this change, you must delete Respondents Accounts, update the Study Type setting, and create new Respondent Accounts.***

In a study with Scheduled recalls, the Intake Dates are designated during the initial study setup using either the Respondent Accounts Wizard or the Import File (see Create Respondent Accounts). The ASA24™ Respondent Web site will permit Respondent access only on the

specified Reporting Dates. Dates can be specified for multiple attempts for each recall in case the Respondent does not complete the recall on the first assigned date. In some cases, Unscheduled recalls may be preferred due to the unpredictable nature of clinic visits or classes. In a study with Unscheduled recalls, Respondent access to ASA24™ is not limited so long as the Respondent has not reached the maximum number of recalls specified by the Researcher.

How many recalls can be completed by each Respondent?

Each unique username can be used to complete only the number of recalls specified by the Researcher. Recalls that are started, but not finished, count towards this maximum.

How will ASA24™ help me to monitor the progress of my study?

During a study, the Researcher can visit the Researcher Web site to view and download data on Respondents' progress, including the date of the next Scheduled recall for a Respondent (for Scheduled studies), the number of completed recalls per Respondent, and other progress metrics.

Filter options for Tracking Recalls include, among others:

- Recalls scheduled during a specific date range;
- Recalls not started; and
- Recalls with both food and supplement information completed.

What analytic output will I be able to access using ASA24™?

For the ASA24™-2014 and ASA24™-Kids-2014 the Researcher can access the Researcher Web site at any time once a study has begun to obtain analytic output files, including nutrient and food group analyses. Files include a summary of Respondents' quick list entries and food codes, energy, nutrients, and MyPyramid Equivalent values from foods and beverages reported, and supplement codes and nutrients from supplements reported. Refer to the Data Analysis section for detailed information about the analytic output available from ASA24™. Analyses can be run for all Respondents (batch) or for the last recall of a particular Respondent (individual). Output for batch requests will be available the following day by 6:00 a.m. Eastern Time and output for individual requests will be available in approximately 15 minutes. Output for batch requests is cumulative. Please note that no feedback is provided by ASA24™ to Respondents, and output files available from the Researcher Web site are not formatted for the lay public. However, Researchers can use the output files to provide information to Respondents as they desire.

Analytic output is not yet available for ASA24™-Canada-2014. Although researchers can begin to collect 24-hour recall data using ASA24™-Canada-2014, tailored analytic reports for ASA24™-Canada-2014 are currently under development. Work underway to incorporate Canadian

nutrient data into the ASA24 analytic module for computing energy and nutrient intakes from foods and drinks reported on ASA24 recalls is expected to be complete by the fall of 2015.

Is ASA24™ available in multiple languages?

ASA24™ is available to Respondents in both English and Spanish for ASA24™-2014 and ASA24™-Kids-2014. When Respondents log in to the site, they will be able to choose their preferred language. Regardless of which language is used to complete the recall, all data on the Researcher Web site will be in English.

How is Respondent confidentiality maintained within ASA24™?

ASA24™ does not collect any identifying data about Respondents, either from Researchers or directly from Respondents. Respondent data are protected by industry standard security controls. All data entered into ASA24™ at the Respondent's computer are encrypted by the Internet browser (e.g., Internet Explorer, Firefox) before they are transmitted to ASA24™ servers using Secure Socket Layer protocol, or SSL. SSL allows for the authentication of the sending and receiving computers. Only a particular study's investigator(s) and the ASA24™ operations team can access response data using usernames and strong passwords.

IP address information is accessed for the purpose of routing information between the server and the Respondent's computer. Often, the IP address is that of the user's Internet Service Provider (ISP). IP addresses are not stored or tracked by ASA24™. However, logs of connections are kept for audit trail purposes. This information is not harvested in any way but would be available if there were a legal obligation to release it.

3. System Requirements

The ASA24™ Researcher Web site was designed to optimally display on a monitor size greater than 10 inches. Additionally, a screen resolution of 1024 x 768 or larger is recommended for optimal display of the data grids. The site will render on mobile devices, though not always optimally.

Because data entered on one screen may affect the display of data on another screen, ASA24™ does not support the use of the **Back** or **Forward** buttons of your Web browser. Please use the tabs within the site for navigation (see Overview of the ASA24™ Researcher Web site) for a summary of each tab).

4. Registering to Use ASA24™

Registering to use ASA24™ is free to researchers, clinicians, and educators. To register, select the **Register** button on the site (https://asa24.nci.nih.gov/researcherSite/ASA242013.aspx). This button will take you to a short form that will prompt you for some basic information required to create an account. Fill in each of the required fields (noted by an asterisk), and select **Submit**.

After selecting the **Submit** button, you will receive two emails from ASA24Helpdesk@westat.com. One email will contain a username and a temporary password; the second email will contain usage information. Once you log in with the temporary password, you will be prompted to change the password to one of your choosing. You may then register a new study or explore the site.

Interested users may view the Respondent Web site without registering a study. A demonstration version of the Respondent Web site allows any interested user with high-speed internet access to view and try out ASA24™-2014 and ASA24™-Kids-2014 (https://asa24.nci.nih.gov/Demo.aspx). However, the demonstration version will not save any recall data or provide any dietary analyses. The full version of ASA24™, including access to the Researcher Web site, is available only to registered users.

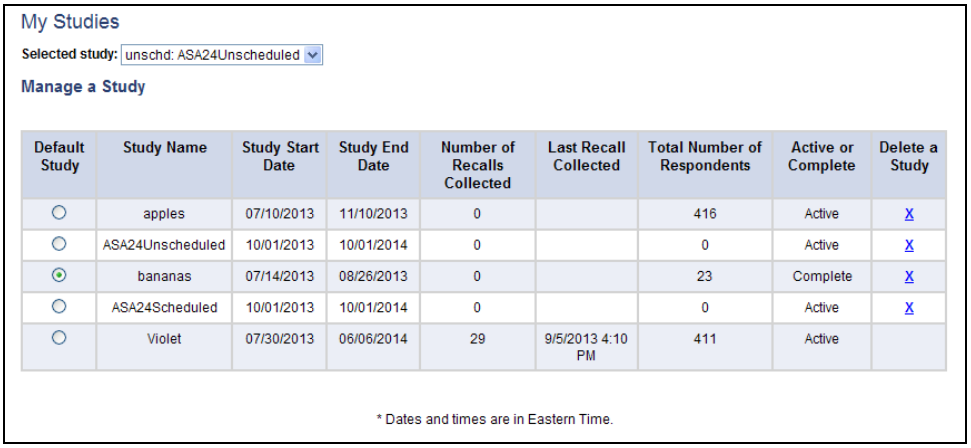
5. Overview of the ASA24™ Researcher Web site

Once a Researcher Account has been created, Researchers can set up a study or simply view the site. Researchers can explore the site and manage studies through the five main tabs at the top of the page:

- My Studies
- Study Details
- Respondent Accounts
- Track Recalls
- Analytic Files

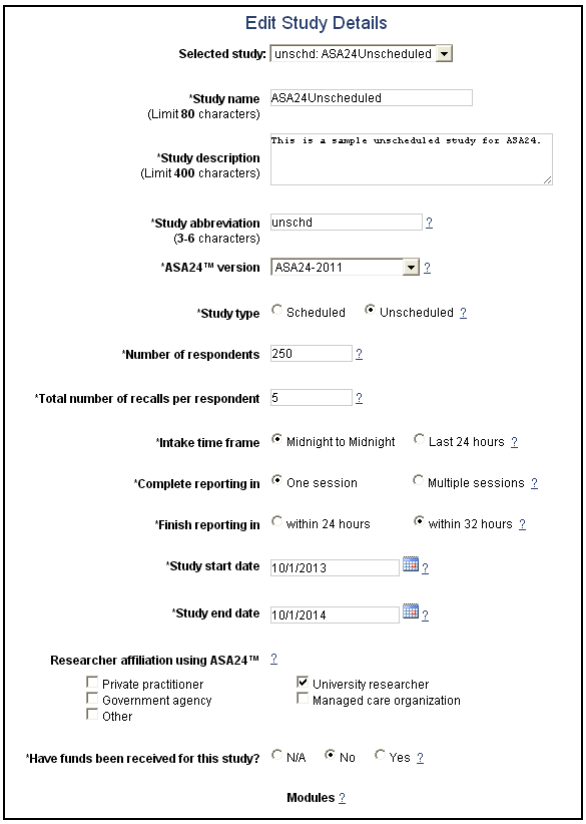
The **My Studies** tab functions as the site's home when a Researcher is logged in. This tab provides a snapshot of all current and past studies registered through a Researcher's username. Researchers can view study start and end dates, the number of recalls collected, the date of the last recall collected, the total number of Respondents, and a study's status (active or complete). Researchers can change the default study (i.e., the study that is automatically selected when a Researcher logs in) or delete existing studies. Deleting a study removes all data associated with that study, including completed recalls and recalls in progress.

Figure 5-1. My Studies Tab



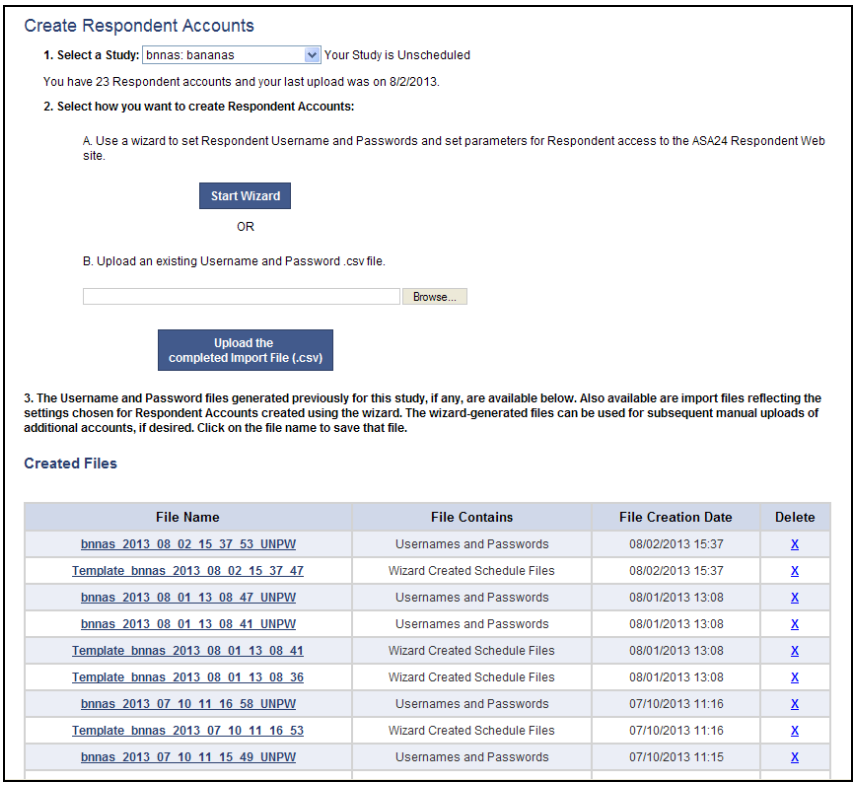
The **Study Details** tab (Figure 5-2) allows a Researcher to edit settings for current studies. These settings include the study name, description, number of respondents, number of recalls to be completed per respondent, study start and end dates, and other details. Study settings can be updated at any time, with the exception of Study Type (Scheduled versus Unscheduled).

Figure 5-2. Edit Study Details



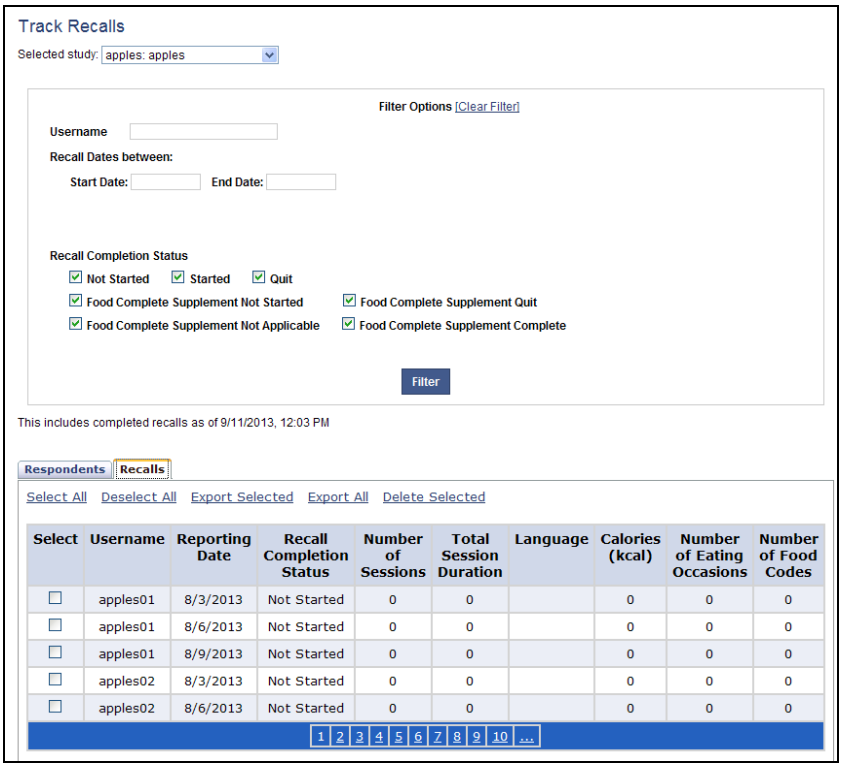
The **Respondent Accounts** tab allows a Researcher to create Respondent Accounts for any study (Figure 5-3). Respondent Accounts can be created through one of two ways: (1) a step-by-step "wizard", or (2) a manual file upload. Before creating Respondent Accounts, it is important to consider several factors, such as whether recalls will be Scheduled or Unscheduled and the number of recalls allowed per Respondent. For more information on these settings or creating Respondent Accounts, see Setting Up a Study.

Figure 5-3. Respondent Accounts



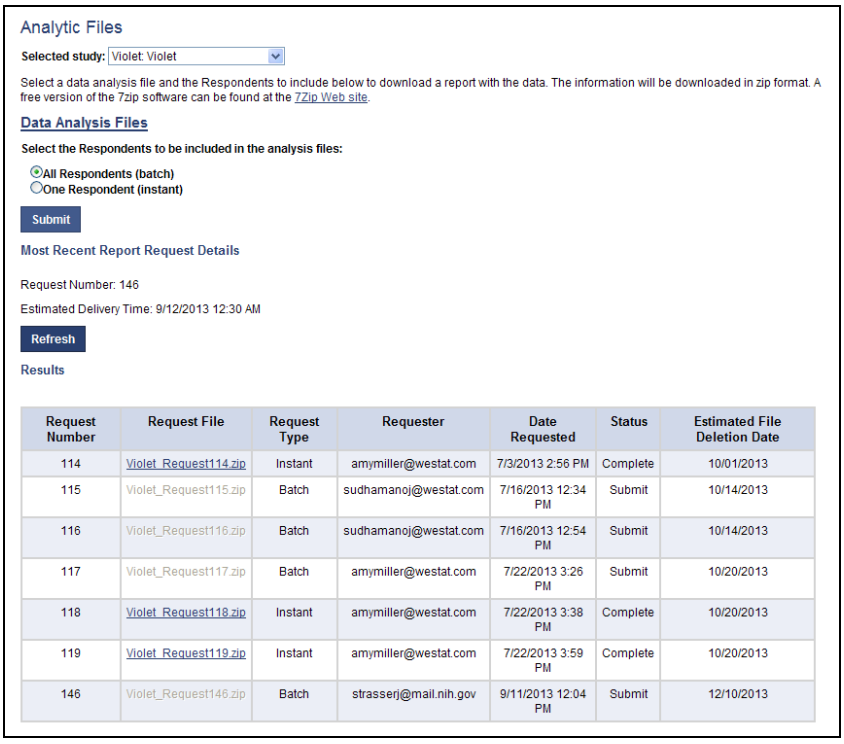
The **Track Recalls** tab (Figure 5-4) can be used by Researchers to monitor completion of recalls for a selected study. On this tab, recalls may be filtered on a number of parameters selected by the Researcher; these include recalls completed in a given date range, recalls not started for a given study, and recalls completed by a given Respondent (note: some categories are only applicable to Scheduled Studies). Researchers may switch from the table view to a Respondent-level (number of completed recalls for each Respondent, etc.) or recall-level summary (specific information for each recall by each Respondent, such as Reporting Date, completion status, etc.).

Figure 5-4. Track Recalls Tab



The **Analytic Files** tab (Figure 5-5) allows Researchers to request and download analytic files for a selected study. These files include nutrient and MyPyramid Equivalents data and can be generated for all Respondents (batch) or the last recall for a single Respondent (instant). Files for all Respondents will be available the following morning by 6 a.m. Eastern Time and files for a single Respondent will be available for download in approximately 15 minutes.

Figure 5-5. Analytic Files Tab



Analytic Files

Selected study: Violet: Violet

Select a data analysis file and the Respondents to include below to download a report with the data. The information will be downloaded in zip format. A free version of the 7zip software can be found at the 7Zip Web site.

Data Analysis Files

Select the Respondents to be included in the analysis files:

- (•) All Respondents (batch)
- ( ) One Respondent (instant)

Submit

Most Recent Report Request Details

Request Number: 146

Estimated Delivery Time: 9/12/2013 12:30 AM

Refresh

Results

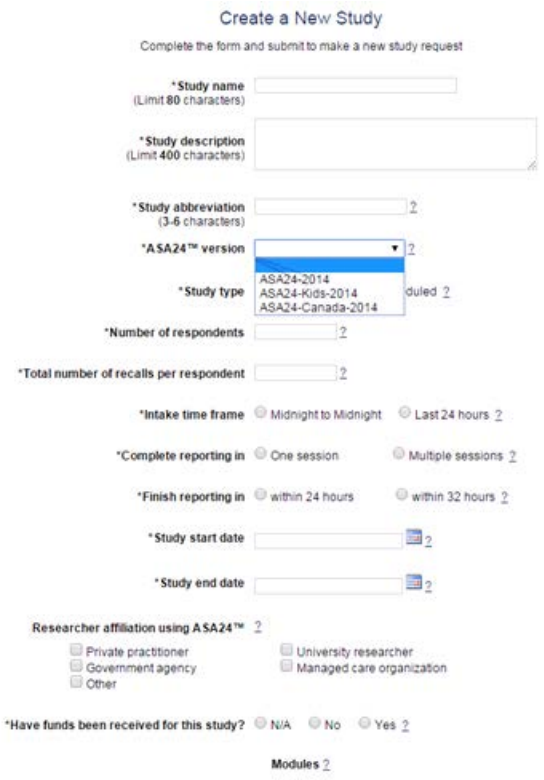
Request Number	Request File	Request Type	Requester	Date Requested	Status	Estimated File Deletion Date
114	Violet_Request114.zip	Instant	amymiller@westat.com	7/3/2013 2:56 PM	Complete	10/01/2013
115	Violet_Request115.zip	Batch	sudhamanoj@westat.com	7/16/2013 12:34 PM	Submit	10/14/2013
116	Violet_Request116.zip	Batch	sudhamanoj@westat.com	7/16/2013 12:54 PM	Submit	10/14/2013
117	Violet_Request117.zip	Batch	amymiller@westat.com	7/22/2013 3:26 PM	Submit	10/20/2013
118	Violet_Request118.zip	Instant	amymiller@westat.com	7/22/2013 3:38 PM	Complete	10/20/2013
119	Violet_Request119.zip	Instant	amymiller@westat.com	7/22/2013 3:59 PM	Complete	10/20/2013
146	Violet_Request146.zip	Batch	strasserj@mail.nih.gov	9/11/2013 12:04 PM	Submit	12/10/2013

6. Setting Up a Study

Before creating a study, Researchers should consider several parameters that will affect the completion of recalls by Respondents and the study's overall administration. These parameters include study start and end dates, number of respondents, and number of recalls per respondent.

To create a study, visit **My Studies** tab and select the **Create a New Study** button. This button will take you to a detailed form with options for each study parameter (Figure 6-1). Once you complete the form for creating a study, you can create Respondent Accounts and manage study staff access. These steps are detailed below.

Figure 6-1. Create a New Study



Specify study parameters

An explanation of each study parameter follows; you can view key information about each parameter by selecting the question mark next to each item on the screen.

Study Abbreviation: Researchers must provide a Study Abbreviation or Short Study Name when registering a new study. It must be unique within ASA24™ and composed of three to six letters or numbers with no spaces. The username for each Respondent in a study will be a combination of the Study Abbreviation and a numeric StudyID provided during Respondent Account creation. For this reason, it is a good idea to choose an abbreviation that will be meaningful to your Respondents. For example, if a study abbreviation is FRUIT, sample usernames may be FRUIT101 or FRUIT1001.

Study Description: Researchers must provide a brief description of the study; this field has a 200-word limit. This description will only be viewed by the Researcher and other study staff and the ASA24™ Help Desk (ASA24Helpdesk@westat.com); it will not be displayed on the Researcher or Respondent Web sites.

> ***Example:***
>
> *This is a cohort study with 100,000 Respondents investigating diet and risk for later chronic diseases, including cardiovascular disease, diabetes, and a variety of cancers. The baseline data will be collected over the next five years and the follow-up will be conducted subsequently.*

ASA24™ Version: Researchers must choose among the three available versions of the site. It is important to note that if a Researcher wishes to use multiple versions (e.g., ASA24™-2014 and ASA24™-2014-Kids) within the same research study, two ASA24™- studies will have to be created (one for each version). See Key Considerations for Researchers for details.

Study Type: There are two study types—Scheduled and Unscheduled. *Please note that, once Respondent Accounts have been created, a study type cannot be changed.*

Number of Respondents: Researchers must specify the anticipated number of Respondents for a study. This information can be updated after a study has begun as needed.

Number of recalls (per Respondent): Researchers must specify the maximum number of recalls allowed for each Respondent. The ASA24™ system does not impose any limit on the number of recalls completed per Respondent. This information can be updated after a study has begun.

Intake Time frame: Researchers must specify the Intake Time Frame for the recalls to be collected within a study. ASA24™ studies can be set up so that the time frame for which a Respondent is prompted to report their intake is either from Midnight to Midnight the previous day (i.e., the day before the Reporting Date) or the Last 24 Hours (i.e., the 24 hours preceding the Respondent's first log in to ASA24™). For the Last 24 Hours option, recalls must be completed by midnight on the Reporting Date; for Midnight to Midnight studies, Researchers can choose whether Respondents must complete their recalls by midnight on the Reporting Date or by 8 a.m. the following day.

Complete reporting in: Researchers must indicate whether Respondents can complete their recalls in one or in multiple sessions. Respondents can complete the recall either in one session (i.e., with one login with no breaks greater than 30 minutes) or in multiple sessions. The number of sessions a Respondent used for each recall will be displayed on the **Track Recalls** tab. This information can be updated after a study has begun.

Finish reporting in: This field refers to the time frame (24 or 32 hours) that the Researcher will permit Respondents to finish each recall. This information can be updated after a study has begun, but is dependent on the selection made for Intake Time frame:

If the Intake Time frame is Midnight to Midnight, Researchers must choose between allowing Respondents 24 or 32 hours to complete their recalls; for 32 hours, the Respondent will have until 8:00 am the day after the Reporting Date to complete the recall. These rules apply to both Scheduled and Unscheduled Studies.

If the Intake Time frame is Last 24 Hours, Respondents must complete their recalls by midnight on the day the recall is started (the Reporting Date).

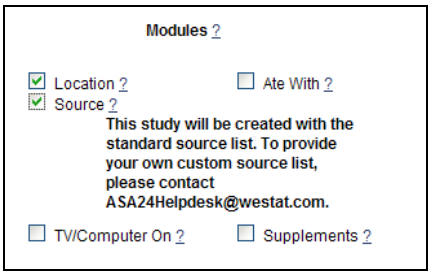
> ***The ASA24™ system uses the Respondent's computer local date and time to verify that the Respondent is completing a recall within the allowable time frame, as specified by the Researcher. Visiting the site at any other time will result in an "access not permitted" message.***
>
> ***Consecutive recalls are possible under specific conditions determined during study setup. See Key Terms for details on allowing consecutive recalls.***

Study Start and **End Dates:** Researchers must select Study Start and End Dates. The Study Start Date is the first date that study Respondents may log in to the Respondent Web site in order to complete a recall (i.e., the first possible Reporting Date for recalls). The Study End Date is the last date that study Respondents may log in to the Respondent Web site in order to complete a recall for an Unscheduled Study (i.e., the last possible Reporting Date for recalls). Generally, Respondents will not be able to log in to the Respondent Site after the Study End Date; the primary exception is for Scheduled studies where the Researcher has allowed Respondents 32 hours to finish their reporting (see Finish reporting in above) and the last scheduled recall takes place exactly on the Study End Date. The Start Date and End Date can be updated later if needed.

Modules: This field is used to indicate which optional ASA24™ modules will be administered to Respondents (Figure 6-2). The Location module is selected by default because the recall of location may provide context to aid Respondents in recalling what they ate at a meal; however, this module can be turned off by the Researcher. Other optional modules query about food

source, TV/computer use during meals, who meals were eaten with, and supplement intakes. Note that if the food source module is selected, the location module must also be selected. This information can be updated after a study has begun. See Appendix K for more information on modules.

Figure 6-2. Modules



Additional Settings

Study Logo: Researchers can choose to upload a logo that will be displayed to study Respondents on the Respondent site welcome page. To upload a logo, Browse your computer for the appropriate file, select **Open** on the pop-up screen, and then select the **Upload** tab. The required logo dimensions are 100 x 40 pixels—please check the appearance of the logo in the preview area. The Demo_User Account provided when usernames and passwords for Respondents are downloaded can be used to check the appearance of the logo on the Respondent Web site.

Log On and Log Off Splash: Standard text has been provided in both English and Spanish for ASA24™-2014 and ASA24™-Kids-2014 to welcome Respondents to ASA24™ and to thank them when they complete their recalls (Figure 6-3). The welcome text was designed to emphasize the need to provide complete intake information and the suggestion to complete the recall in one sitting; maintaining this text is recommended. The Researcher can customize this text to include the study name or other information as appropriate.

Using a word processing program (e.g., Microsoft Word) to customize the text and copying and pasting the revised text into the Edit Study Optional Settings box may be easier than making edits directly on the web page. The Demo_User Account provided when usernames and passwords for Respondents are downloaded can be used to view any revisions to the text. Note that, depending on your computer settings, special characters (e.g., á) may not display on the Study Details screen in the Researcher Web site. Please check to verify that your revised text, including special characters, displays properly on the Respondent Web site. It is a good idea to check both the English and Spanish versions.

All Respondents are given the option of completing recalls in either English or Spanish when they log in to ASA24™-2014 or ASA24™-Kids-2014, regardless of the study settings.

Figure 6-3. Additional Settings

Add study staff

Researchers may provide study access to additional staff for administration of the study. Staff members who are added to the study will be able to log into the Researcher Web site to complete study setup tasks, monitor study progress, and request and download analytic output files. The Researcher who created the study is assigned as the primary investigator by default. Only the primary investigator can delete a study (and corresponding data); other study staff can perform all other actions within the ASA24™ Researcher site.

New study staff can be added by visiting the **Study Details** tab and selecting the **Manage Study Staff** button. This link will take you to a tab where you can create accounts for new staff or manage access for staff members who already have ASA24™ accounts. To switch between studies, select the relevant study from the drop-down menu at the top of the tab. Once the appropriate study has been selected, select the link labeled Add Study Staff and complete the

form with basic contact information for the staff member; the staff member will then receive information about logging into the site via email.

Create Respondent Accounts

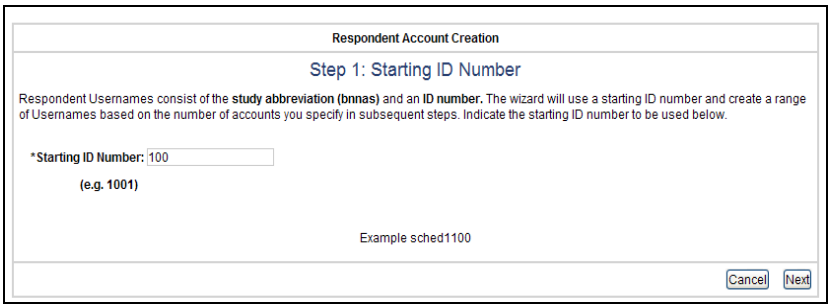
Respondent Accounts can be created in one of two ways: using the Respondent Accounts Wizard or using an Import File.

Respondent Accounts Wizard

The Respondent Accounts Wizard will walk you through the necessary steps for creating Respondent Accounts. It may be helpful to consider the parameters described below before launching the Wizard.

Once you are ready to start the Wizard, go to the **Respondent Accounts** tab. On the first screen, check that the correct study is selected. Then select the **Start Wizard** button and follow the prompts in each step.

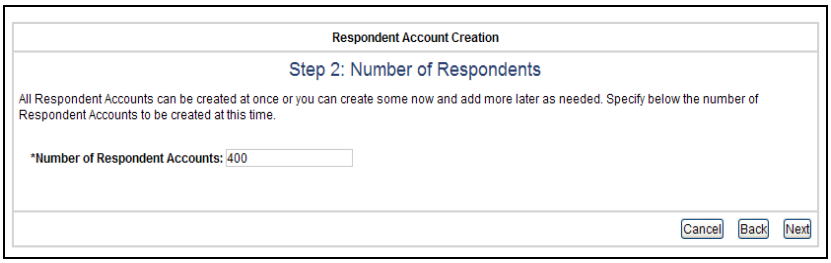
Figure 6-4. Step 1: Determine a starting ID number



Step 1: Determine a starting ID number. This number will represent the first Respondent Account number in the series. If your study abbreviation is FRUIT, and you select a starting respondent number of 100, the first Respondent username will be FRUIT100. Subsequent usernames will be FRUIT101, FRUIT102, etc.

If you wish to use a distinct range of usernames for testing purposes only (e.g., in the 500-550 range), you will have to complete the Wizard twice, entering different starting ID numbers for test usernames as well as active Respondent usernames. Refer to Key Considerations for Researchers ("How can a Researcher test or pilot the ASA24™ system?") for more information.

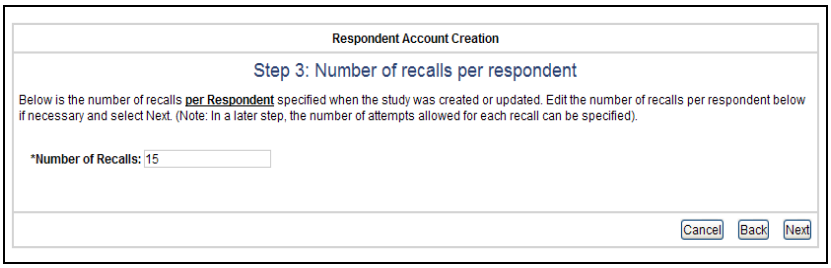
Figure 6-5. Step 2: Determine number of Respondents



Step 2: Determine the number of Respondents who will participate in the study (Figure 6-5). The Wizard can be used to create Accounts for additional Respondents later if necessary.

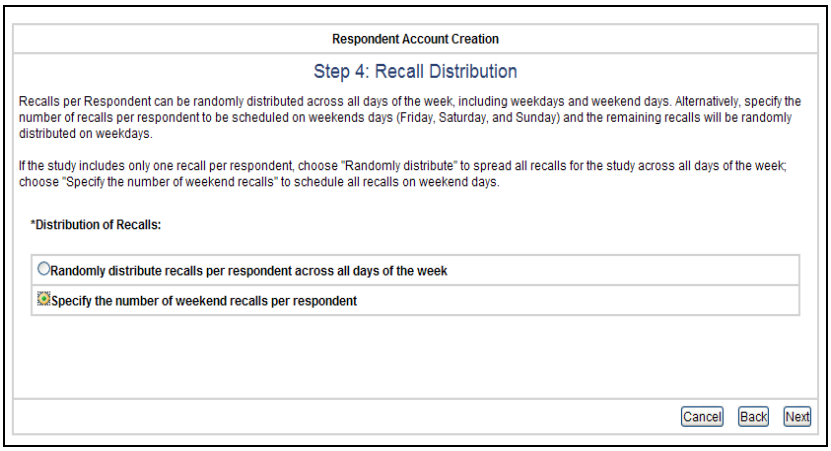
Note: Steps 3 through 7 apply only to Scheduled studies. For Unscheduled studies, skip to Step 8.

Figure 6-6. Step 3: Determine number of recalls



Step 3: Determine the number of recalls allowed per Respondent (Figure 6-6). If the number of recalls is 5, once a Respondent has completed 5 recalls, they will not be able complete any further recalls. This number can be updated later if needed.

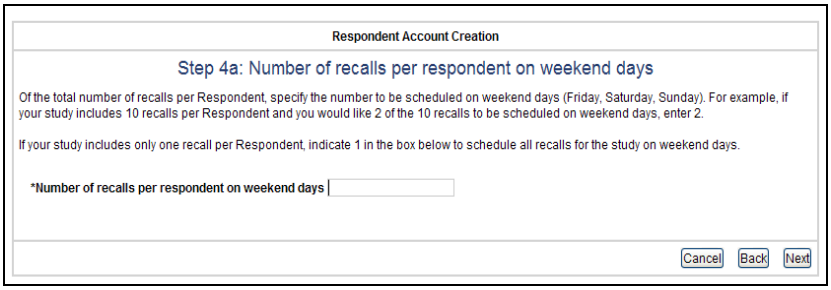
Figure 6-7. Step 4: Recall Distribution



Step 4: Determine the number of recalls to be collected for weekday intake dates (Monday through Thursday) versus weekend intake dates (Friday, Saturday, Sunday) for each

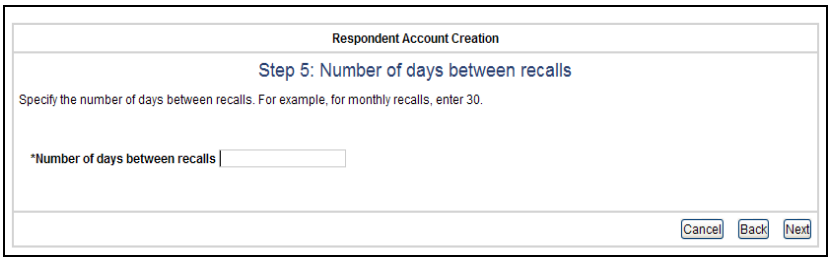
Respondent (Figure 6-7). Recalls may be randomly distributed throughout the week or the number to be completed for weekend Intake Dates (Friday, Saturday, and Sunday) may be specified (in this case, the remaining recalls will be scheduled for weekday intake dates).

Figure 6-8. Step 4a: Number of recalls per respondent on weekend days



Step 4a: The number of weekend recalls may be zero for studies in which Respondents will complete all recalls for weekday intake dates; similarly, the number of recalls for weekend intake dates may be the total number of recalls per Respondent, which would allow for recalls only for weekend intake dates and no weekday intake dates (Figure 6-8).

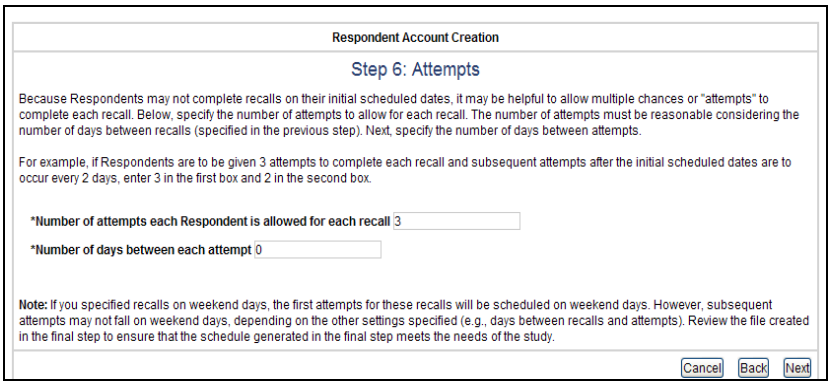
Figure 6-9. Step 5: Days between recalls



Step 5: Determine the number of days between recalls (Figure 6-9). For *Midnight to Midnight* recalls where If consecutive days are desired, respondents must finish reporting in 24 hours, the number of days between recalls must be zero, and, the number of attempts must be one. For *Midnight to Midnight* recalls where Respondents must finish reporting in 32 hours, consecutive recalls are not possible and the number of days between recalls must therefore be larger than zero.

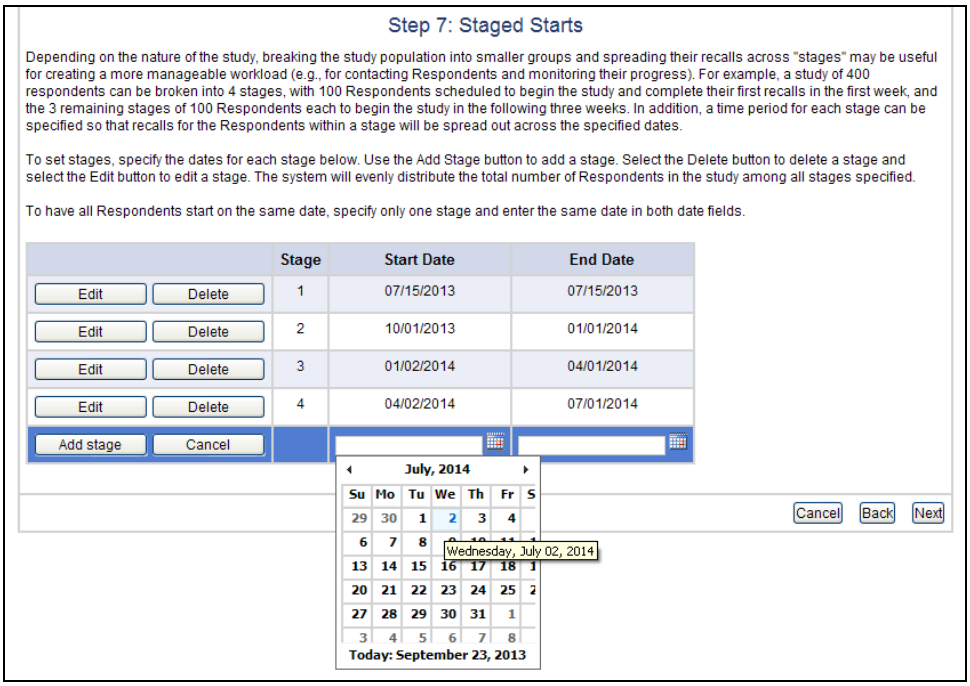
To space recalls evenly, specify the necessary interval between recalls. For example, if you would like each Respondent to complete 3 recalls over a 3-month study timeframe and recalls to be spaced evenly throughout the study period, enter 30 days between recalls.

Figure 6-10. Step 6: Attempts



Step 6: Determine the number of attempts each respondent is allowed for each recall and the number of days between each attempt (Figure 6-10). Specify one attempt to limit Respondents to a single date to complete each recall or the desired number of multiple attempts. To schedule attempts for consecutive days, specify one day between attempts.

Figure 6-11. Step 7: Staged Starts



Step 7: Determine whether recalls will be administered in stages. (Figure 6-11). In a large study having all Respondents start their recalls at the same time may be difficult for study staff to manage and support Respondents. Therefore, it may be advantageous to Researchers to stage recalls over a period of weeks or months so that a manageable number of Respondents is

completing recalls at a given time. Any number of stages can be created, as long as each stage falls within the study period.

Once you have completed the steps outlined above, a summary of your selections will be presented on a single screen (Figure 6-12). It is important to review this screen carefully; use the **Back** button provided on the screen (rather than the browser's **Back** button) to make changes if necessary.

Figure 6-12. Step 7: Confirmation

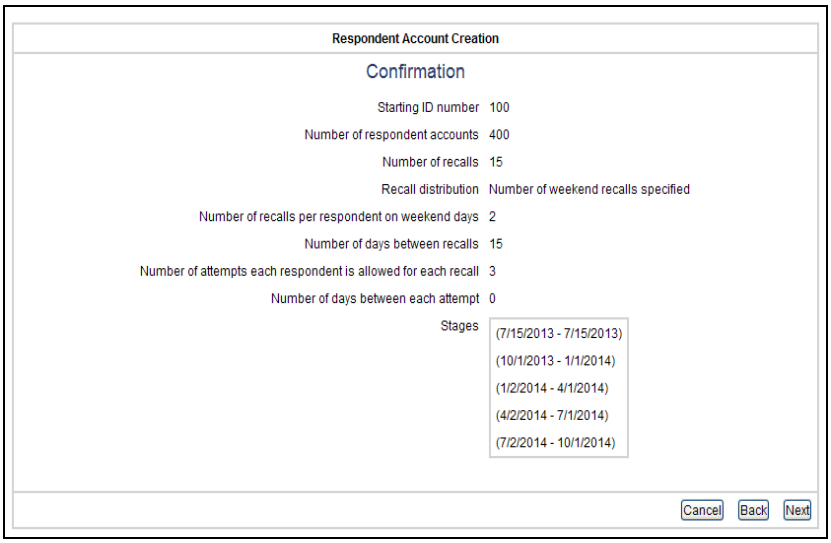
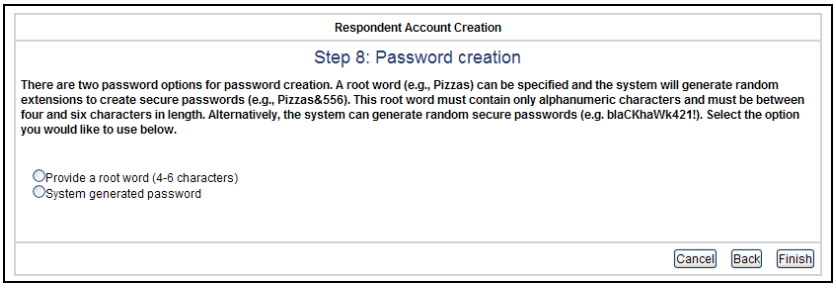


Figure 6-13. Step 8: Password creation



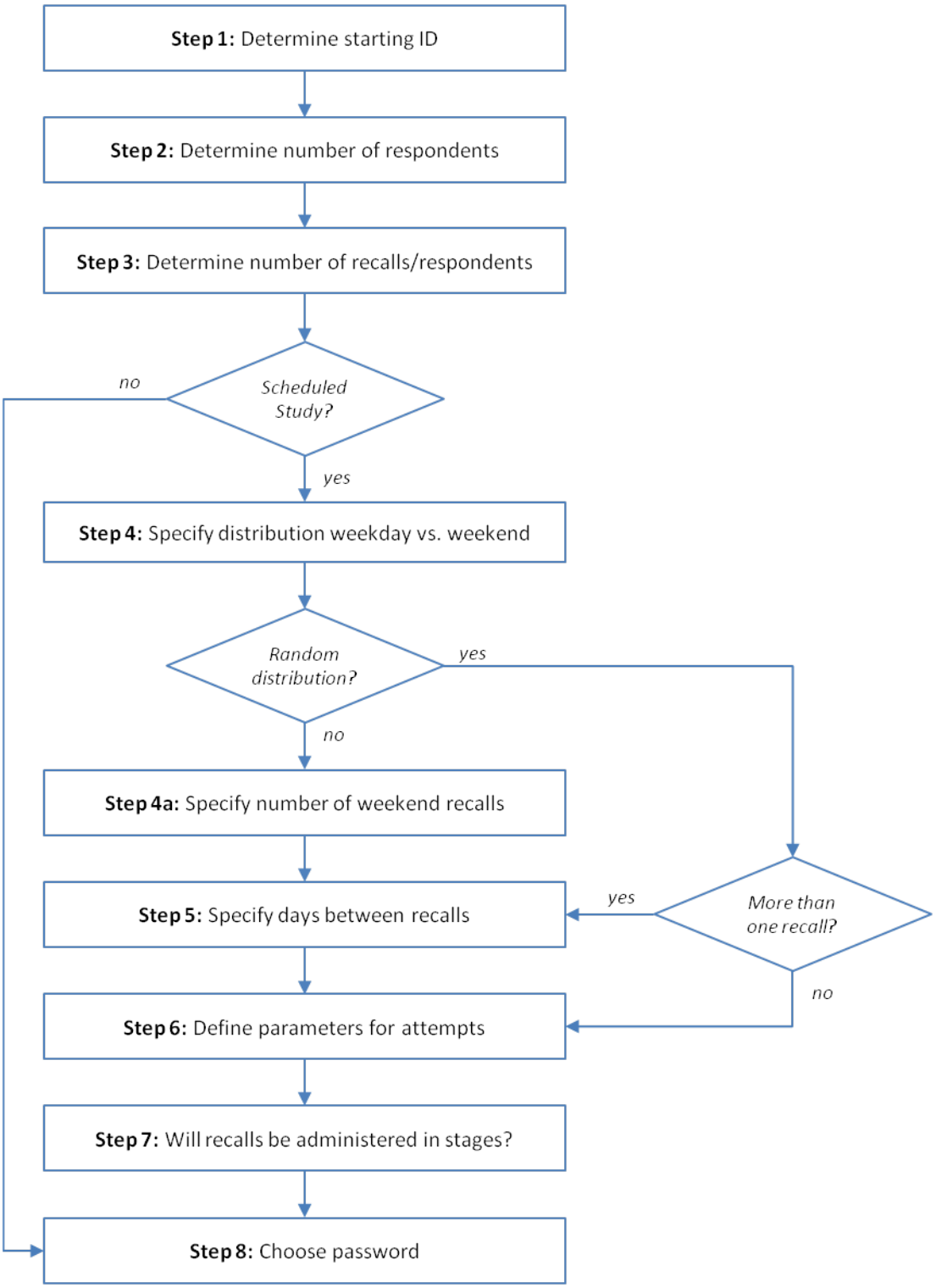
Step 8: Choose between randomly generated passwords (e.g. blaCKhaWk421!) for all Respondents or passwords based on a relevant root word (e.g. Pizzas10) (Figure 6-13).

Once the wizard has been completed, two files will be available for download: a Username and Password File and an Import File. The Import File contains the SubjectID, Reporting Dates, Attempt Dates, Intake Dates and Passwords. If desired, this file can be downloaded, updated, and then uploaded to make modifications to the schedule of dates (see Import File below).

For Scheduled studies: Researchers should carefully review the schedule provided in the Import File to ensure that it is consistent with expectations. The Wizard is designed to create a recall schedule that matches all elements selected by the Researcher during completion of the Wizard, while correcting for entries that present logic conflicts (e.g., requesting more weekend recalls than total number of recalls). However, there are several parameters used to calculate the recall schedule (number of recalls per Respondent, number of attempts per recall, number of weekend Intake Dates, and spacing of recalls throughout the study period), and it is therefore important to confirm that each selection corresponds with the schedule anticipated by the Researcher.

To make changes, the Researcher can run the Respondent Accounts Wizard again with different selections. Alternatively, this file can be downloaded, updated and then uploaded to make modifications to the schedule of dates (see Import File below).

Figure 6-14. Respondents Account Wizard



Import File

An alternative to using the wizard approach described above is to use the Import File approach, where information needed for creating Respondent Accounts is entered into in a file that is downloaded from the ASA24™ site and uploaded once complete. The Import File template is available for download from the Researcher Web site. This template is in the form of an Excel workbook with multiple worksheets and is described in more detail in the next section. Once the workbook is completed and saved to a CSV file, the file must be uploaded to the Researcher Web site. The content and structure of the Import File will be validated by the ASA24™ system. Once the Import File has been successfully validated, the ASA24™ system will generate a file containing usernames and passwords for the Respondents Accounts. Researchers are responsible for assigning and securely distributing account information to their Respondents. Once the initial Import File has been uploaded and validated, Researchers can upload additional files to add new study Respondents (usernames and passwords will be generated for new Respondents) or to update or add new Intake Dates for existing Respondents (no new usernames or passwords will be generated if information is updated for an existing study Respondents). If necessary, please edit the study settings using the Study Details screen to adjust the number of Respondents or recalls per Respondent, prior to attempting to upload new CSV files.

Completing and uploading the Import File

Please ensure that you carefully follow the instructions to avoid delays in completing your study setup (study Respondents will not be able to access the Respondent Web site until the setup process has been successfully completed). *The Import File must be structured as described in this section.*

As noted above, a template of the Import File is available for download from the Researcher site. Please note that the template is saved as an Excel file rather than a CSV file to enable the inclusion of instructions for Researchers. Because the template is an Excel file, we refer to it as a workbook. The Excel workbook includes four worksheets as indicated by the tabs along the bottom; the first is the actual template that Researchers will use to enter Respondent data. The three remaining worksheets include sample data for an Unscheduled and a Scheduled study and troubleshooting tips.

You may populate the template worksheet of the spreadsheet with your data using Excel, but it must be saved as a CSV file before it can be uploaded. Only the data in the active sheet (ImportFile_Template) will be retained in the CSV file. The additional worksheets (i.e., sample data and troubleshooting tips) will not be retained in the CSV file so you may wish to save a copy of the Excel version for future use and reference.

- Before populating and uploading the Import File, ensure that you have selected the correct study type (Scheduled versus Unscheduled) within the Edit Study screen. The major difference between the two study types is that the Researcher must provide a schedule of Intake Dates to ASA24™ for Scheduled studies, whereas this information is not accepted for Unscheduled studies. Respondents in Scheduled studies can only access ASA24™ on their specified Reporting Dates. In Unscheduled studies, Respondents have unlimited access to ASA24™ so long as they do not attempt to complete more than one recall within the same reporting period or reach the maximum number of recalls (refer to Key Considerations for Researchers for further details). **Please note that once a study has begun (i.e., Respondent Accounts have been created), it cannot be changed from Unscheduled to Scheduled or vice versa.**

The study type determines which columns in the Import File need to be populated by the Researcher. If the information that you upload in the Import File does not match the study type that you have selected, the system will not accept your file and you will not receive usernames and passwords for your Respondents.

- For a Scheduled study, the Import File must include complete information for SubjectID, Recall Number, Attempt, and Intake Date.
- For an Unscheduled study, only SubjectID is required. Leave the Recall Number, Attempt, and Intake Date columns blank. Complete only one row per Respondent, regardless of the number of recalls each Respondent is to complete.
- For both Scheduled and Unscheduled studies, the Researcher has the option of providing passwords for study Respondents. If passwords are not provided, they will be generated by ASA24™ and will be available for download along with the Respondent usernames after the Import File upload and validation process is complete. It may be advisable to provide passwords for Respondents to maintain consistency with passwords used for other components of the study.

The Import File columns are described below:

- **StudySubjectID:** *Applies to Unscheduled and Scheduled studies.* StudySubjectIDs must be provided to allow ASA24™ to generate usernames for study Respondents. Usernames will be composed of the Study Abbreviation (provided at study registration) and the StudySubjectID. This username is used in all ASA24™ reports and files to enable the Researcher to link ASA24™ data with other study data. Please note that data in ASA24™ reports are sorted alphanumerically; Researchers may wish to use leading zeroes in StudySubjectIDs to enable ordinal sorting (e.g., 0001, 0002, 0003, ..., 0010, ..., 0100, etc.).

- **Recall and Attempt Numbers:** *Applies to Scheduled studies only.* The Import File must include one row (and a corresponding Intake Date/Period—see below) for each recall attempt for every study Respondent. For example:
  - For a study with four recalls with one attempt each per Respondent, there would be four rows for each StudySubjectID and, in the Recall Number column, each row would be numbered consecutively from 1 to 4 (Figure 6-15).
  - For a study with three attempts per recall, three rows are needed for each Recall Number, and in the Attempts column each row will be numbered consecutively from 1 to 3 (Figure 6-16).

Figure 6-15. Recalls and Attempts, single attempt/recall

StudySubjectID	RecallNumber	Attempt	IntakeDate	Password
1001	1	1		
1001	2	1		
1001	3	1		
1001	4	1		
1002	1	1		
1002	2	1		
1002	3	1		
1002	4	1		

Figure 6-16. Recalls and Attempts, multiple attempts/recall

StudySubjectID	RecallNumber	Attempt	IntakeDate	Password
1001	1	1		
1001	1	2		
1001	1	3		
1001	2	1		
1001	2	2		
1001	2	3		
1001	3	1		
1001	3	2		
1001	3	3		
1002	1	1		
1002	1	2		
1002	1	3		

- **Intake Date:** *Applies to Scheduled studies only.* The Researcher specifies the date of food consumption to be recalled. The Reporting Date (the date on which the Respondent will access ASA24™ to complete the recall) will be calculated by ASA24™. The earliest allowable date is the day prior to uploading of the Import File, in which case the Reporting Date would be the current date.
- **Password:** The Researcher may choose to supply a password for each StudySubjectID or leave the Password column blank. If passwords are not supplied, they will be generated by ASA24™ following validation of the Import File.
  - System-generated passwords will have at least one upper case letter, one lower case letter, and one special character. If you plan to mail usernames and

passwords to Respondents using hard copies, you may wish to specify passwords that are easier to decipher (e.g., Apples1#). If passwords are emailed to Respondents, you may want to suggest that they copy and paste the password. *For security purposes, Respondent Web site accounts are locked after five login attempts using an invalid password.* The Researcher can unlock Respondent Accounts under the Manage Respondent tab by selecting the **Manage Respondent Accounts** button.

PLEASE NOTE: A bug in some versions of Excel causes an error when an Import File without passwords is uploaded. If you experience problems, please specify passwords and try again to determine whether this resolves the issue. For additional troubleshooting information, refer to the Frequently Asked Questions available from the NCI ASA24 Web site (http://appliedresearch.cancer.gov/tools/instruments/asa24/resources/faq.html).

Table 6.1. Import File Specifications

StudySubjectID	▪ Unique identifier for each study Respondent assigned by Researcher ▪ Numbers only; up to 24 digits* ▪ Required for Scheduled and Unscheduled studies
Recall Number	▪ Positive integer ▪ Must be less than or equal to the maximum number of recalls selected in Study Details ▪ Required for Scheduled studies only; left blank for Unscheduled studies
Attempt	▪ Positive integer ▪ Required for Scheduled studies only; left blank for Unscheduled studies
Intake Date	▪ Required for Scheduled studies only; left blank for Unscheduled studies ▪ Format: mm/dd/yyyy ▪ Must be within the study start date and end date provided by Researcher *The earliest allowable Intake Date is the date prior to uploading of the Import File (i.e., yesterday) (see Intake Date and Reporting Date in Key Terms)*
Password	▪ 8-14 characters ▪ At least one special character (no single, double quotes, vertical bar, comma, or backslash) ▪ A combination of letters and numbers **and/or** a combination of upper and lower case letters ▪ *Examples of valid passwords:* storage!3 #TqBfJoTlD$ 2hrd2Gs! ▪ *Examples of invalid passwords:* funnybunny! [must include an uppercase letter and/or a number to be valid] $3rT$ [too short] 2easyToForget [must include a special character]

* Note that if you are working with Excel, a StudySubjectID that contains more than 15 digits will be distorted. The file is best viewed using a text editor, such as Windows Notepad or TextEdit (or SimpleText) for Mac.

Notes regarding the format of the **Import File**:

- Column headers cannot be changed (however, headers are not case sensitive).
- No extra headers or columns are permitted.

- Blank rows for file readability are permitted.

Sample populated spreadsheets appear in **Figure 6-17** and **Figure 6-18** (Unscheduled studies) and **Figure 6-19** and **Figure 6-20** (Scheduled studies).

Figure 6-17. Sample Import File for Unscheduled Study (Passwords generated by ASA24™)

StudySubjectID	RecallNumber	Attempt	IntakeDate	Password
1001				
1002				
2001				
2002				
2003				
2004				

Figure 6-18. Sample Import File for Unscheduled Study (Passwords provided by Researcher)

StudySubjectID	RecallNumber	Attempt	IntakeDate	Password
1001				Banana2#
1002				Banana3#
2001				Banana9#
2002				Carrot6#
2003				Mango$30
2004				Mango$31

Figure 6-19. Sample Import File for Scheduled Study (Passwords generated by ASA24™)

StudySubjectID	RecallNumber	Attempt	IntakeDate	Password
1001	1	1	1/1/2011	
1001	1	2	3/1/2011	
1001	2	1	5/1/2011	
1001	2	2	6/1/2011	
1002	1	1	1/1/2011	
1002	1	2	2/1/2011	
1002	2	1	3/1/2011	
1002	2	2	4/1/2011	

Figure 6-20. Sample Import File for Scheduled Study (Passwords provided by Researcher)

StudySubjectID	RecallNumber	Attempt	IntakeDate	Password
1001	1	1	1/1/2011	Banana2#
1001	1	2	3/1/2011	Banana2#
1001	2	1	5/1/2011	Banana2#
1001	2	2	6/1/2011	Banana2#
1002	1	1	1/1/2011	Mango$30
1002	1	2	2/1/2011	Mango$30
1002	2	1	3/1/2011	Mango$30
1002	2	2	4/1/2011	Mango$30

Once the **Import File** has been populated with the necessary information for the study type, save the spreadsheet as a **CSV** file. To do this, ensure that the ImportFile_Template is the active

sheet and use the **Save as** command in Excel and select CSV as the file type. Only the active sheet will be converted to CSV (the additional worksheets including sample data and troubleshooting tips will not appear in the CSV file).

Upload the CSV file to the Researcher Web site (note that this can only be done once a study has been set up —see Setting Up a Study for details). To upload the completed Import File, go to the **Respondent Accounts** tab from the Researcher site home page. Select **B. Upload Respondent information manually using a template .csv file** and you will be prompted to browse for the CSV file on your computer. Once you locate the file, select the **Load** button; this uploads the CSV file to the ASA24™ system.

The uploaded file will be validated for errors and, if problems are detected, data on errors will be provided immediately. Errors should be fixed on the original spreadsheet, which should be uploaded again once corrected.

A pop-up message will provide the Researcher with the Username and Password file; this file will also be available to download on the **Respondent Accounts** tab. Additional information, such as Reporting Date, can be downloaded from the **Track Recalls** tab.

The last line of the first Usernames and Passwords file downloaded for a specific study includes information for a study demonstration account (Demo_User Account) that can be used to view customizations made to the Respondent Web site (e.g., logo, welcome, and thank-you text), as well as to complete one or more practice 24HR. 24HR data entered to the Respondent Web site using the Demo_User Account do not appear in the study reports or analytic files.

While Excel provides a convenient way to view CSV files, passwords with special characters may not display correctly due to automatic formatting. The downloaded Username and Passwords file is best viewed using a text editor, such as Windows Notepad, TextEdit, or SimpleText (for Mac).

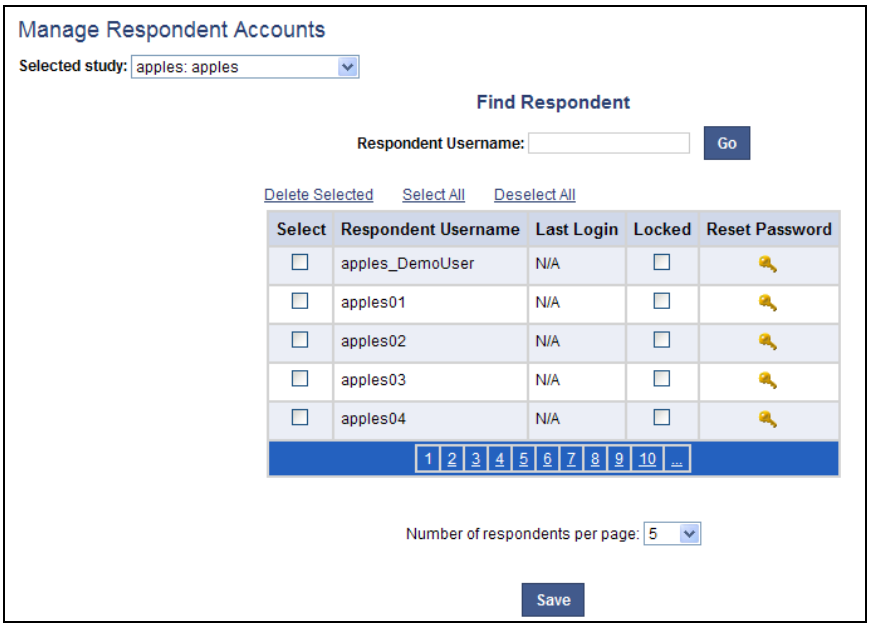
Once usernames and passwords have been downloaded and saved, the Researcher can contact study Respondents to provide them with the ASA24™ Respondent Web site URL (https://asa24.nci.nih.gov), username and password information. Once Respondents begin entering recall data into the ASA24™ Respondent Web site, the Researcher can visit the Researcher Web site to obtain reports on the status of recalls and analytic files with food and nutrient data. Details on reports and analytic files are provided in the following sections (see Data Analysis).

Managing Respondent Accounts

Once Respondent Accounts have been created (either through the Respondent Accounts Wizard or through the Import File), study staff can make necessary changes, including deleting

accounts, changing passwords, or locking or unlocking accounts on the Respondent Accounts page (Figure 6-21).

Figure 6-21. Manage Respondent Accounts



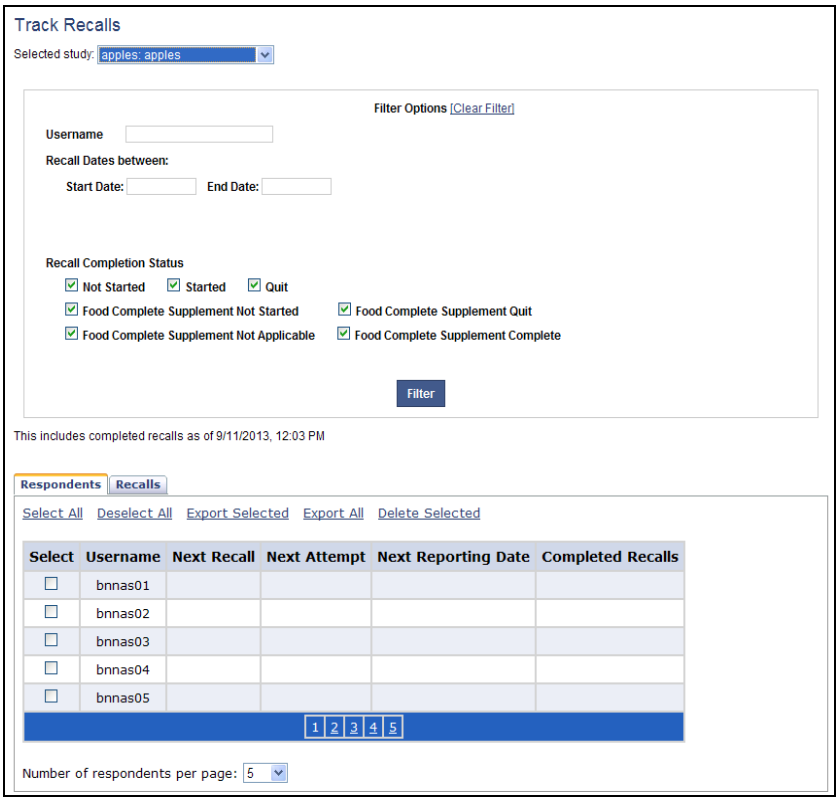
- To **Find a Respondent**, enter the username in the box and select the **Go** button. The table will display the details for the username entered.
- To **Delete a Respondent**, select the check box in the Select column next to the Respondent username and select the Delete Selected link above the table. Note that all data associated with the Respondent username will be deleted from the study and cannot be retrieved.
- To **Lock a Respondent's Account**, select the check box in the Locked column in the row with the Respondent's name and select the **Save** button below the table. Locking the account prevents the Respondent from accessing the ASA24™ Respondent Website.
- To **Unlock a Respondent's Account**, deselect the check box in the Locked column in the row with the Respondent's name (this box should be checked if the account is already locked) and select the **Save** button below the table. A Respondent's account may be locked manually to prevent access (see above) or automatically as a result of 5 failed login attempts.
- To **Reset a Respondent's Password**, select the key icon in the **Reset Password** column in the row with the Respondent's name. You will then be prompted to enter a new password.
- To **Select All Respondents** in the table, use the Select All link above the table.

7. Monitoring Study Progress

Researchers can monitor study progress by tracking completion of recalls on the **Track Recalls** tab.

Data can be viewed for all Respondents/recalls or a subset of Respondents/recalls by filtering on specific criteria. Respondent-level data contain summary information about Respondents (i.e., one row per Respondent). Recall-level data contain summary information about recall attempts (i.e., one row per recall attempt). Viewing Respondent-level data enables a Researcher to identify the overall status of a Respondent (e.g., date of next Scheduled recall, number of recalls completed). Viewing recall-level data enables the Researcher to view information about a specific recall attempt (e.g., completed or started but not finished, reporting date, etc.).

Figure 7-1. Track Recalls



In addition, filters can be applied. To filter, select the relevant study from the top of the page and select any options you wish to use as filters; then select Filter to display the results. The results of sorts/reports are presented in data grids, which can be downloaded using the **Export** buttons. These files will be available as CSV files.

Respondents Tab

Column fields in the reports generated using the **Respondents** tab are as follows (note that some fields do not apply to Unscheduled studies):

- StudyID
- Username
- **Next Recall** (for Scheduled studies only)
- **Next Attempt** (for Scheduled studies only)
- Next Reporting Date
- Completed Recalls

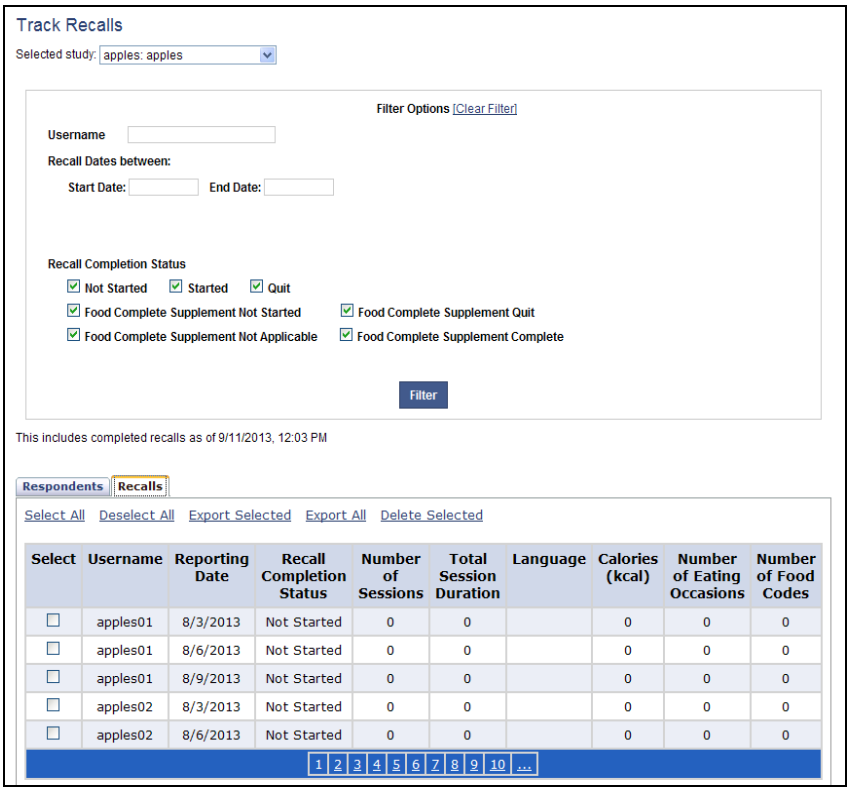
Recalls Tab

Using the **Recalls** tab, the Researcher can view information for all study recalls (Figure 7-2) or filter data based on specified criteria. Grids viewed using the **Recalls** tab will include as many rows per Respondent as there are recalls and attempts (e.g., two recalls with four attempts would have eight rows). This screen is useful for obtaining past or future information about Respondents' recalls.

Column fields in the reports generated using the **Recalls** tab include the following:

- Username
- Recall Date
- Recall Completion Status
- Number of Sessions (number of log-ins)
- Total Session Duration
- Language (in which the recall was completed)
- Calories (consumed during recall period)
- Number of Eating Occasions (i.e. meals, snacks, drinks)
- Number of Food Codes

Figure 7-2. Track Recalls



Filtering Grids

Researchers can also filter by recalls completed during a specific date range or for a specific Respondent. To filter for recalls completed by a specific Respondent, enter the Respondent's username in the corresponding field on the page. Then select any other relevant search criteria – i.e., date range, recall completion status – and use the **Filter** button at the bottom of the tab to display the selections. To clear and start a new search or view information for all Respondents, use the Clear Filter link at the top of the tab.

8. Data Analysis

Once Respondents have entered recall data using the **ASA24™** Respondent Web site, the Researcher Web site **Analytic File** tab enables the Researcher to request food and nutrient analytic files for all versions except ASA24™-Canada-2014.

Although Researchers can begin to collect 24-hour recall data using ASA24™-Canada-2014, work is still underway to incorporate Canadian nutrient data into the **ASA24™** analytic module for computing energy and nutrient intakes from reported foods and drinks. This work is scheduled to be completed Fall 2015. For ASA24™-2014 and ASA24™-Kids-2014 analyses can be

run for all Respondents (**batch**) or for the last recall of one Respondent (**instant**). Batch files are cumulative. The following files are available (see Appendices C-J for more information):

- Data regarding nutrients and food equivalents, including:
  - **My Selections (MS):** Names of foods and drinks reported and probe questions and answers for each Respondent, by recall day.
  - **Individual Foods and Nutrients (INF):** Food codes, gram weights, and nutrient values for each food reported by each Respondent by recall day (each row is a food) based on the Food and Nutrient Database for Dietary Studies (FNDDS).
- Gram weights in the INF file are calculated by multiplying the gram weight of the FNDDS portion code (ASA24™ field PortionCode) by the amount consumed (ASA24™ field HowMany). FNDDS portion code descriptions may be found in the table ASA24.PortionCodeDescriptions.FNDDSv4.1.xlsx.
  - **Individual Foods and Pyramid Equivalents (INFMYPHEI):** Food codes and gram weights for each food reported by each Respondent by recall day (each row is a food) based on FNDDS, and MyPyramid Equivalents for each food reported by each Respondent, by recall day (each row is a food) based on the MyPyramid Equivalents Database (MPED), as well as nutrient values for each food from FNDDS (as in the INF file). MyPyramid Equivalents can be used by Researchers to derive Healthy Eating Index (HEI) variables and scores (see http://riskfactor.cancer.gov/tools/hei/tools.html for SAS code for calculating HEI scores).
  - **Daily Total Nutrients (TN):** Total nutrient values for foods reported by each Respondent for each recall day (each row is a recall day), based on FNDDS.
  - **Daily Total Pyramid Equivalents (TNMYPHEI):** MyPyramid Equivalents from all foods reported, by Respondent and recall day (each row is a recall day) based on MPED, as well as total nutrient values for foods from FNDDS (as in the TN file). MyPyramid Equivalents can be used by Researchers to derive HEI variables and scores (see http://riskfactor.cancer.gov/tools/hei/tools.html for SAS code for calculating HEI scores).

Additional information on FNDDS and MPED are available from the U.S. Department of Agriculture Agricultural Research Service (http://www.ars.usda.gov/main/site_main.htm?modecode=12-35-50-00). The versions of the databases applied depend on the **ASA24™** version (Table 8.1)

For studies in which the optional **supplements module** is selected, Researchers will also receive up to three additional analytic files:

- **Individual Supplements (INS):** National Health and Nutrition Examination Survey Dietary Supplement Database (NHANES-DSD) supplement codes and nutrients for each supplement reported by each Respondent, by recall day.
- **Daily Total Supplements (TS):** Nutrients from all supplements in a given day, by Respondent and recall day.
- **Daily Total Nutrients from Foods and Supplements (TNS):** Nutrients from foods and supplements, by Respondent and recall day; this file includes only intakes that have an entry in the INS file.

Table 8.1. Food, supplement and nutrient databases by Respondent Web site version

	ASA24™-Beta (released 2009)	*ASA24™-2011* *ASA24™-Kids-2012* *ASA24™-2014* *ASA24™-Kids-2014*
Food codes and nutrient values	Food and Nutrient Database for Dietary Surveys (FNDDS), version 1.0.	Food and Nutrient Database for Dietary Surveys (FNDDS), version 4.1. The nutrients included are listed in Appendix B.
MyPyramid Equivalents	MyPyramid Equivalents Database (MPED), version 1.0.	MyPyramid Equivalents Database (MPED) version 2.0 supplemented with the USDA Center for Nutrition Policy and Promotion MPED Addendum to allow compatibility with FNDDS 4.1; nutritionists on the ASA24™ team imputed values for 9 food codes for which MyPyramid Equivalents have not yet been assigned by USDA.
Supplement codes and nutrient values	Not applicable.	National Health and Nutrition Examination Survey (NHANES) Dietary Supplements Database, 2007-2008.

Data dictionaries applicable to the ASA24™-2014 and ASA24™-Kids-2014 Respondent sites are available in Appendices C-J. The data dictionaries and sample output files are also provided on the Researcher site home page.

Note to users of the retired Beta Respondent site: As a result of updates to the underlying databases (Table 8.1), data collected using the Beta version and newer versions of ASA24™ are not directly comparable. Visit http://riskfactor.cancer.gov/tools/instruments/asa24/ to access guidance and code for updating analytic files from the Beta version to apply updated database values. It is not possible to rerun Beta site Respondent data using the updated Researcher websites.

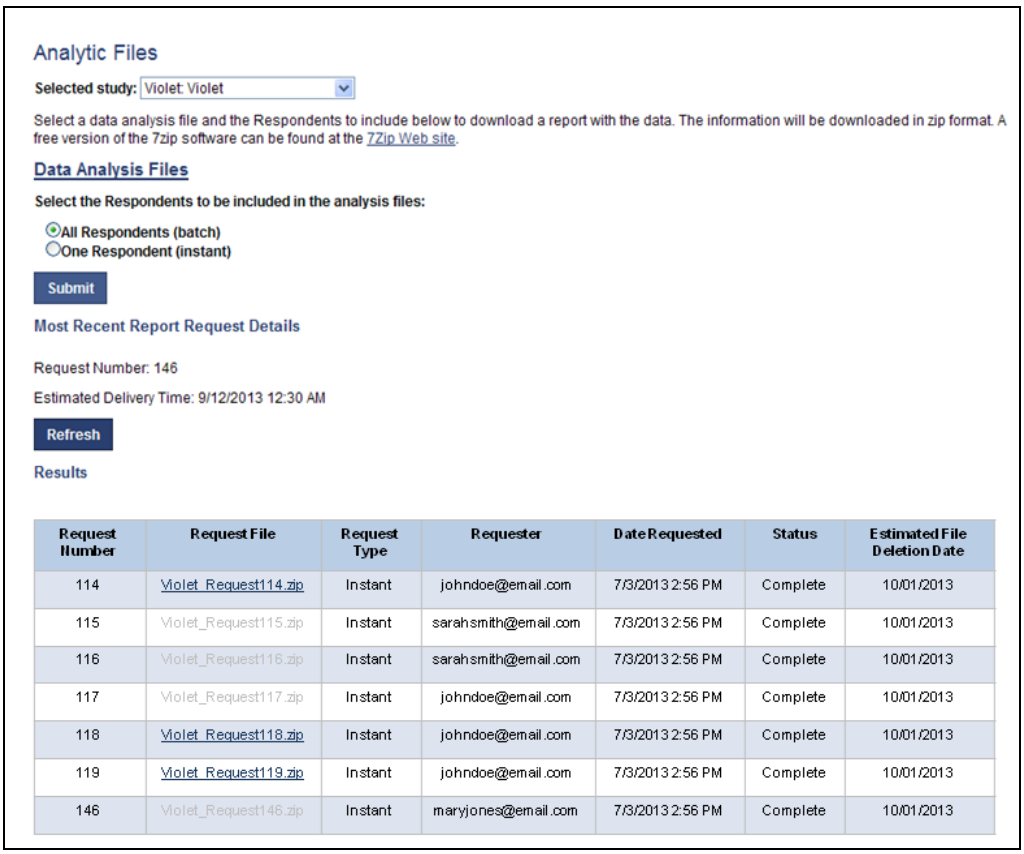
Modifications to the nutrient database cannot be accommodated at this time within the ASA24™ system. However, data files with food codes and gram amounts can be downloaded

from ASA24™ and linked to an external database to derive estimates for a nutrient or component not included in FNDDS.

Requesting Analytic Files

To obtain nutrient and other results for Respondents, go to the **Analytic Files** tab (Figure 8-1), and choose the study of interest from the drop-down menu.

Figure 8-1. Analytic Files Tab

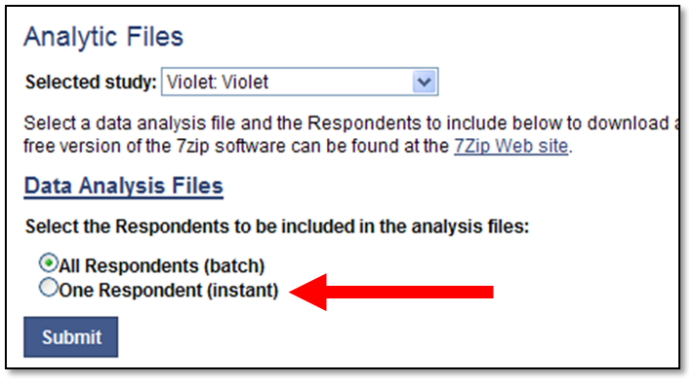


Request Number	Request File	Request Type	Requester	Date Requested	Status	Estimated File Deletion Date
114	Violet_Request114.zip	Instant	johndoe@email.com	7/3/2013 2:56 PM	Complete	10/01/2013
115	Violet_Request115.zip	Instant	sarahsmith@email.com	7/3/2013 2:56 PM	Complete	10/01/2013
116	Violet_Request116.zip	Instant	sarahsmith@email.com	7/3/2013 2:56 PM	Complete	10/01/2013
117	Violet_Request117.zip	Instant	johndoe@email.com	7/3/2013 2:56 PM	Complete	10/01/2013
118	Violet_Request118.zip	Instant	johndoe@email.com	7/3/2013 2:56 PM	Complete	10/01/2013
119	Violet_Request119.zip	Instant	johndoe@email.com	7/3/2013 2:56 PM	Complete	10/01/2013
146	Violet_Request146.zip	Instant	maryjones@email.com	7/3/2013 2:56 PM	Complete	10/01/2013

The **All Respondents (batch)** option generates reports for all recalls completed to date. A request number and estimated delivery time will be displayed. Typically, files requested for all Respondents will be available by the next business day by 6 a.m. Eastern Time. To access the files, return to the site the next business day and go to the **Analytic Files** tab (Figure 8-1). Select the link in the Request File column to download and save files. Files will be available for downloading in a zip folder, for approximately 30 days. The data files are provided in CSV format and can be opened using Excel. For very large studies, this time period may be shorter but will be specified on the Web site (noted on the Analytic Files page as Estimated File Deletion Date).

A Researcher can also view analyses for a single Respondent. The **Respondent (instant)** option allows the user to generate real-time reports for a particular Respondent's last recall, which may be useful in a clinical or teaching setting. To request an instant report, select the **Respondent Username** button and enter the username for the Respondent of interest in the text box. Select **Submit** and results will be returned in approximately 15 minutes. The resulting files will include output for all recalls completed by the Respondent.

Figure 8-2. One Respondent (instant)



As noted above, 24HR data are coded using FNDDS, MPED, and NHANES. No other processing is conducted within the ASA24™ system. As with any data collection initiative, Researchers should carefully assess the quality of the data collected from their study Respondents.

To assist Researchers in assessing data quality, analytic files include a status flag to indicate whether a recall was completed (i.e., whether the Respondent completed the program up to the last question). Refer to the data dictionaries for descriptions of the variables (Appendices C-J). Incomplete recalls may be deemed acceptable by a Researcher depending upon how far the Respondent made it in the program and what data are missing (e.g., missing a valid response to the final question only, which queries whether intake was usual, as opposed to missing details on portion size). It is also possible that a Researcher may wish to exclude a recall coded as Complete by ASA24™ because the data entered by the Respondent are of poor quality.

No feedback is provided by ASA24™ to Respondents, and output files available from the Researcher site are not formatted for the lay public. However, Researchers (or clinicians or staff) can use the output files to provide information to Respondents as they desire.

9. Key Terms

ASA24™ Help Desk: The ASA24™ Help Desk is monitored by NCI-designated staff charged with monitoring and maintaining the ASA24™ Researcher and Respondent Web sites. The administrator provides general support to Researchers throughout study set-up and administration. Email ASA24Helpdesk@westat.com to contact the Help Desk.

Attempts: For Scheduled Recall studies (see below), Researchers can specify the number of times a Respondent can try to complete each recall. For example, for a study collecting 3 days of recall data, the Researcher may choose to allow the Respondent 4 attempts (i.e., 4 different dates) to complete each recall, resulting in a total of 12 attempts. This information will be specified by the Researcher as part of the study setup process.

Consecutive Recalls: Researchers may wish to have Respondents complete recalls for consecutive days, in order to obtain data for periods longer than 24 hours. Consecutive recalls are possible only under the following conditions:

(1) Intake Time frame of Midnight to Midnight and Respondents must finish reporting in 24 hours OR

(2) Intake Time frame of Last 24 Hours and Respondents logging in to the system at the exact same time each day.

For example, in a study with an Intake Time frame of Last 24 Hours, if a Respondent logs in at noon on Monday for the first recall and noon on Tuesday for the second recall, information on food and drinks consumed during the previous 48 hours will be captured. However, if a Respondent logs in at noon on Monday and 2:00 pm on Tuesday, information on food and drinks consumed from noon to 2:00 pm on Monday will be missing.

Consecutive recalls are not possible for studies with an Intake Time frame of Midnight to Midnight if Respondents must finish reporting in 32 hours.

Data Dictionary: A data dictionary identifies the contents of an analytic file, including the names of the nutrient fields. Data dictionaries are available for download from the Researcher Web site home and included as Appendices C-J.

Demo_User Account: For each registered study, a Demo_User Account is provided that enables Researchers to view customizations they make to the Respondent Web site (e.g., logo, welcome and thank-you text, optional modules) and to complete one or more practice recall. The Demo_User Account details are included in the first username/password file that is downloaded as part of the process of creating Respondent accounts. Recall data entered to the Respondent Web site using the Demo_User Account do not appear in the study reports or analytic files.

Intake Date: The Intake Date is the date for which a Respondent will report their food and drink consumption. If a Respondent is providing intake information from Midnight to Midnight the previous day, then the Intake Date will be that day. If a Respondent is providing intake information for the Last 24 Hours, the Intake Period will generally span two calendar dates, and the Intake Date will be the later of the two dates.

Intake Time frame: The Intake Time frame refers to the 24-hour period for which Respondents will recall their food and drink consumption. The Time frame will be either: Midnight to Midnight or the Last 24 Hours, as defined by the Researcher during study setup.

Recall Number: The Recall Number for each recall completed by a Respondent is displayed in the analytic files that can be downloaded from the site (see Data Analysis).

Reporting Date: The Reporting Date is the date on which the Respondent accesses ASA24™ and reports food and drink intake for either the previous day from Midnight to Midnight or for the Last 24 Hours. The Reporting Date for an intake is displayed on the output files that can be downloaded from the **Analytic Files** tab.

Researcher: The term Researcher may denote a researcher, clinician, instructor, member of the study staff, or other health professional accessing the ASA24™ Researcher site.

Respondent: The term Respondent includes anyone completing a recall on the ASA24™ Respondent site. In any given study or research findings, researchers may choose to use other terms such as participant or study subject; this term is meant to encompass these and other synonyms.

Scheduled Study: A Scheduled Study is one in which Intake Dates are predetermined during study set-up and the ASA24™ system permits access only on the applicable Reporting Dates. By limiting access, the Scheduled study approach is helpful in ensuring that Respondents complete their recalls on the dates desired by the Researcher. Reporting Dates can be generated by the Respondent Accounts Wizard or accessed through the Track Recalls tab that used the Intake Dates from the uploaded Import File. For scheduled studies, dates can be set for multiple attempts (i.e., backup dates) for each recall in case the Respondent does not complete the recall on the assigned date.

Session: Throughout the ASA24™ site, the term session is used to signify a period during which a Respondent is continuously logged in to the site. When setting up a study, Researchers can choose whether Respondents will be allowed a single session per recall or multiple sessions. The ASA24™ system will automatically log a Respondent out after 30 minutes of inactivity; this allows the Respondent to step away from their computer for a brief period while completing a recall within a single session.

Study Abbreviation: The Study Abbreviation or Short Study Name is provided by the Researcher when setting up a new study. It must be unique to ASA24™ and is composed of three to six

letters or numbers with no spaces. The username for each Respondent in a study will be a combination of the Study Abbreviation and the StudyID.

StudyID: Researchers must supply an original study identifier for each Respondent, either through the Respondent Accounts Wizard or through the Import File. The StudyID is used on all reports and analytic files to enable the Researcher to link ASA24™ data with other study data. It must be composed of numbers only, up to a maximum of 24 digits.

Unscheduled Study: An Unscheduled Study is one in which Intake Dates and Reporting Dates are not scheduled within ASA24™, requiring the Researcher to manage the timing of recalls outside the ASA24™ system. Researchers should bear in mind that when the unscheduled study option is selected, Respondents' access to ASA24™ will not be limited to certain dates.

Usernames and Passwords: Each ASA24™ system user must have a username and password to log into the Researcher or Respondent websites. Researchers and study staff are assigned usernames and passwords to access the Researcher Site. For Respondents, the username will be composed of the **Study Abbreviation** and the **StudyID** specified by the Researcher.

10. Tips for Managing Studies Using ASA24™

Pilot Studies

Researchers are encouraged to conduct a pilot study to demonstrate or test the utility of the ASA24™ in their study population. Researchers can either register the pilot study by entering all of the necessary information or by uploading dedicated StudySubjectIDs for piloting and testing. Refer to the instructions for Registering to use ASA24™.

Large Studies (100,000 or more Respondents) with Waves

If desired, Researchers can treat each wave of data collection (e.g., baseline and follow-up recalls) as a separate study. It will be possible to view information about all of the studies from the Researcher Web site. Data from the waves can be downloaded and merged together and with other study data.

Multi-site Studies

Researchers with multi-site studies can treat each site as a separate study. The coordinating center or principal investigator can have access to all sites and each site can designate particular staff to have access to their data. Alternatively, Researchers can have one large study with their own designation of site.

Adding Respondents

Researchers can append new Respondents to an existing study, as needed, by using the Respondent Accounts Wizard or uploading a new Import File (see Setting Up a Study). This is particularly useful for studies with rolling enrollment.

Adding Recalls

To add additional recalls to an existing study, use the Respondent Accounts Wizard or upload a new **Import File** (see Setting Up a Study). All new Intake Dates must be from the present day forward.

Access from a Study Web Site

Some studies may have a centralized Web site for study Respondents. Please use the **Contact Us** function from the Researcher Web site to contact the ASA24™ Help Desk (ASA24Helpdesk@westat.com) regarding single sign-on options to enable your Respondents to access ASA24™ from your study Web site. A redirect to the ASA24™ Respondent Web site can be provided, meaning the Respondent would not require an additional username and password to log into and use ASA24™.

11. Helpful Links

- **NCI ASA24™ Web page**
  Includes background information, researcher resources, and FAQs
  http://appliedresearch.cancer.gov/tools/instruments/ASA24

- **ASA24™-2014 Researcher Web site**
  https://asa24.nci.nih.gov/researchersite/

- **Respondent Web site demonstration**
  *Users can choose among the available versions, including **ASA24™**, **ASA24™-Kids,** and **ASA24™-Canada***
  https://asa24.nci.nih.gov/Demo.aspx

- **Respondent Web site**
  *Respondents will be directed to **ASA24™**, **ASA24™-Kids,** or **ASA24™-Canada** based on study configuration*
  https://asa24.nci.nih.gov

- **Known Issues and Workarounds**
  http://riskfactor.cancer.gov/tools/instruments/asa24/resources/issues.html

- **ASA24™ Listserv**
  Allows potential/current users to communicate with the ASA24™ team and other users
  https://list.nih.gov/cgi-bin/wa.exe?A0=ASA24-L

Appendix A: ASA24™ Researcher Agreement

Electronic Certification (E-Certification) and Agreement for use of the Automated Self-Administered 24HR ("**ASA24™**") and Transfer of Data

Applied Research Program

Division of Cancer Control and Population Sciences

National Cancer Institute

PROVIDER: Applied Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute, National Institutes of Health (NIH), an agency of the United States Public Health Service (PHS) within the Department of Health and Human Services (DHHS)

RECIPIENT: Academic and clinical researchers conducting observational studies with human subjects

DATA: Human dietary intake data requested by the RECIPIENT and supplied by the PROVIDER under this Agreement from the database associated with Automated Self-Administered 24HR ("**ASA24™**") Researcher Web Site. "DATA" does not mean the database or software used to create and run the **ASA24™** Web site.

Read the Terms of Agreement carefully; RECIPIENT must agree to these terms to use the **ASA24™** and receive the DATA.

In response to RECIPIENT's request for the DATA identified above, the PROVIDER and the RECIPIENT agree to the following:

1. The DATA are the property of the PROVIDER for distribution purposes and are made available as a service to the research community.
2. The RECIPIENT will not use the DATA unless it has obtained all appropriate clearances to use the data, including but not limited to clearance by an Institutional Review Board or equivalent governing body. The RECIPIENT agrees to use the DATA in compliance with all applicable statutes and regulations.
3. The RECIPIENT may redistribute DATA to third parties for research, clinical, and academic purposes.
4. The RECIPIENT agrees to acknowledge the source of the DATA in any publications reporting use of the DATA.
5. Any DATA delivered pursuant to this Agreement are understood to be experimental in nature. THE PROVIDER MAKES NO REPRESENTATIONS AND EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR THAT

THE USE OF THE DATA WILL NOT INFRINGE ANY PATENT, COPYRIGHT, TRADEMARK, OR OTHER PROPRIETARY RIGHTS.

6. No indemnification for any loss, claim, damage, or liability is intended or provided by any party under this agreement. Each party shall be liable for any loss, claim damage, or liability that said party incurs as a result of said party's activities under this agreement, except that the PROVIDER, as an agency of the United States, assumes liability only to the extent as provided under the Federal Tort Claims Act (28 U.S.C. Chapter 171). If the RECIPIENT is a component of or an agency of a State government, then RECIPIENT assumes liability only to the extent authorized under the laws of the State or Commonwealth.
7. RECIPIENT agrees not to claim, infer, or imply endorsement of the RECIPIENT by the PROVIDER and by the Government of the United States of America.
8. Upon request by the PROVIDER, the RECIPIENT will perform any of the following as directed by the PROVIDER: (a) immediately cease use of the DATA; (b) dispose of DATA in the RECIPIENT's possession.

Any false or misleading statements made, presented, or submitted to the Government, including any relevant omissions, under this Agreement are subject to all applicable civil and criminal statutes including Federal statutes 31 U.S.C. §§ 3801 3812 (civil liability) and 18 U.S.C. § 1001 (criminal liability including fine(s) and/or imprisonment).

By accepting the terms of this agreement, the RECIPIENT certifies that the information submitted by the RECIPIENT is true, complete, and accurate to the best of RECIPIENT's knowledge. The person accepting the terms of this agreement for the RECIPIENT has the requisite power and authority to accept the terms of this Agreement.

Appendix B: Nutrients and Food Groups Included in ASA24™ Analysis Reports

Nutrients in ASA24 are provided by USDA's FNDDS, while the food group data is provided by the MyPyramid Equivalents Database and the Center for Nutrition Policy and Promotion's fruit database. The following table lists the versions of FNDDS and MPED used for each release of ASA24.

ASA24 version	Nutrient database	Food group databases
ASA24™-2014	FNDDS 4.1	MPED v2, 01-02 fruit database
ASA24™-Kids-2014	FNDDS 4.1	MPED v2, 01-02 fruit database
ASA24™-2011	FNDDS 4.1	MPED v2, 01-02 fruit database
ASA24™-Kids-2012	FNDDS 4.1	MPED v2, 01-02 fruit database
Beta version of **ASA24™**	FNDDS 1	MPED v1, 01-02 fruit database

Information about the nutrient and food group databases may be found here:

FNDDS: http://www.ars.usda.gov/services/docs.htm?docid=12089

MPED: http://www.ars.usda.gov/SP2UserFiles/Place/12355000/pdf/mped/mped2_doc.pdf

CNPP fruit database: http://www.cnpp.usda.gov/HealthyEatingIndexSupportFiles0102.htm

Energy (kcal)

Macronutrients

- Protein (g)
- Total fat (g)
  - Fatty acids, total saturated (g)
  - Fatty acids, total monounsaturated (g)
  - Fatty acids, total polyunsaturated (g)
- Carbohydrate (g)
- Sugars, total (g)
- Fiber, total dietary (g)
- 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)

- Cholesterol (mg)

Water (g)

Alcohol (g)

Vitamins

- Vitamin A, RAE (mcg_RAE)
- Retinol (mcg)
- Carotenoids
  - Carotene, alpha (mcg)
  - Carotene, beta (mcg)
  - Cryptoxanthin, beta (mcg)
  - Lutein + zeaxanthin (mcg)
  - Lycopene (mcg)
- Thiamin (mg)
- Riboflavin (mg)
- Niacin (mg)
- Vitamin B-6 (mg)
- Vitamin B-12 (mcg)
  - Added vitamin B-12 (mcg)
- Folate, total (mcg)
- Folate, DFE (mcg_DFE)
  - Folic acid (mcg)

  - Folate, food (mcg)
- Vitamin C (mg)
- Vitamin E, alpha-tocopherol (mg)
  - Added vitamin E (mg)
- Vitamin K, phylloquinone (mcg)
- Choline, total (mg)

Minerals

- Calcium (mg)
- Iron (mg)
- Magnesium (mg)
- Phosphorus (mg)
- Potassium (mg)
- Sodium (mg)
- Zinc (mg)
- Copper (mg)
- Selenium (mcg)

Other food components

- Caffeine (mg)
- Theobromine (mg)

Grains

- Total grain (ounce equivalents)
- Whole grain (ounce equivalents)
- Non-whole/refined grain (ounce equivalents)

Vegetables

- Total vegetables (cup equivalents)
- Dark-green vegetables (cup equivalents)
- Orange vegetables (cup equivalents)
- White potatoes (cup equivalents)
- Other starchy vegetables (cup equivalents)
- Tomatoes (cup equivalents)
- Other vegetables (cup equivalents)

Fruits

- Total fruits (cup equivalents)
- Citrus fruits, melons, berries (cup equivalents)
- Other fruits (cup equivalents)
- Whole fruits (cup equivalents)

Milk

- Total milk (milk, yogurt and cheese) (cup equivalents)
- Milk (cup equivalents)
- Yogurt (cup equivalents)
- Cheese (cup equivalents)

Meat and Beans

- Meat, poultry and fish (ounce equivalents)
- Meat (ounce equivalents)
- Organ meats (ounce equivalents)
- Frankfurters, sausage, and luncheon meats (ounce equivalents)
- Poultry (ounce equivalents)
- Fish and shellfish high in n-3 fatty acids (ounce equivalents)
- Fish and shellfish low in n-3 fatty acids (ounce equivalents)
- Eggs (ounce equivalents)
- Cooked dry beans and peas (ounce equivalents)
- Soybean products (tofu and meat analogs) (ounce equivalents)
- Nuts and seeds (ounce equivalents)

Oils

- Discretionary oil (g)

Extras

- Discretionary solid fat (g)
- Added sugars (teaspoon equivalents)
- Alcoholic beverages (total drinks)

Appendix C: My Selections (MS) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher-provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24-hour period for which the intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date ad time of the end of the 24-hour period for which the intake is being reported	Numeric	22	MM/DD/YYYY hh:mm AM/PM
REPORTINDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish
AMTUSUAL	Respondent's assessment of amount of food consumed on intake day	Numeric	1	1 = Much more than usual 2 = Usual 3 = Much less than usual 8 = Don't know
SALTTYPE *	Type of salt added to foods at the table	Numeric	1	1 = Ordinary, sea, seasoned, or other flavored salt 2 = Lite salt 3 = Salt substitute 4 = None 5 = Other 8 = Don't know 9 = Not applicable

Field Name	Description	Data Type	Length	Codes
SALTFREQ *	How often salt is added to foods at the table	Numeric	1	1 = Rarely 2 = Occasionally 3 = Very often 4 = Other 8 = Don't know 9 = Not applicable
SALTUSED *	How often regular or seasoned salt is added to foods during preparation	Numeric	1	1 = Never 2 = Rarely 3 = Occasionally 4 = Very often 5 = Other 8 = Don't know 9 = Not applicable
OCC_NO	System assigned sequence number for this eating occasion; eating occasions (meals) are sorted chronologically based on the times reported by respondent. By default, supplements are assigned the final sequence number in the intake.	Numeric	2	1–99
OCC_TIME	Time of eating occasion; supplements are assigned a default time of midnight on the intake day.	Date	19	MM/DD/YYYY hh:mm AM/PM
OCC_NAME	Name of eating occasion	Numeric	1	1 = Breakfast 2 = Brunch 3 = Lunch 4 = Dinner 5 = Supper 6 = Snack 7 = Just a Drink 8 = Supplements
EATWITH	Who was with the respondent for the meal	Numeric	1	1 = Eat alone 2 = Family Member(s) 3 = Other(s) 4 = Family Member(s) and Other(s) 9 = Don’t know Blank = Not applicable
WATCHTVUSECOMPUTER	Respondent’s TV and computer use during the meal	Numeric	1	1 = Watching TV 2 = Using a computer 3 = Watching TV and using a computer 4=Neither of these Blank = Not applicable

Field Name	Description	Data Type	Length	Codes
LOCATION	Respondent's location while eating the meal	Numeric	2	1 = Home 2 = Fast food restaurant 3 = Other restaurant 4 = Cafeteria 5 = Bar or tavern 6 = Work (not in cafeteria) 7 = Car 8 = Sports or entertainment venue 9 = Some place else 98 = Don't know Blank = Not applicable ***ASA24™-Kids*** *only* 10 = School, cafeteria 11 = School, not in cafeteria
FOODNUM	FoodListTerm (FLT) or Supplement sequence number within the recall	Numeric	3	1–999
FOODTYPE	Type of food reported	Numeric	1	1 = Primary 2 = Addition Blank=Not applicable
FOODSRCE	Source of the food/most of the ingredients for the food	Numeric	250	Study specified Food Source answer
COMBONUM	Combination number; assigned sequentially to foods reported as "primary" plus "addition "	Numeric	2	1–99
LINENUM	Line number of interview data within each reported food/beverage	Numeric	2	1–99
VARIABLE	Food list term or shorthand question name	Character	255	No codes - user response text
RESPONSE	Answer text	Character	255	No codes - user response text
RESPONSEOS	Respondent-entered text for Unfound Food description or entry for "Other" response	Character	255	No codes - user response text
SPINDIAL1	Value entered by respondent for a portion larger than the options listed	Numeric	2	1–99 Blank=Not applicable
SPINDIAL2	Value entered by respondent for a portion larger than the options listed; used only for foods with two probes regarding portion eaten (e.g., omelet)	Numeric	2	1–99 Blank=Not applicable

Appendix D: Individual Foods and Nutrient (INF) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date and time of the end of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
REPORTINGDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish
OCC_NO	System assigned sequence number for this eating occasion; eating occasions (meals) are sorted chronologically based on the times reported by respondent. By default, supplements are assigned the final sequence number in the intake.	Numeric	2	1–99

Field Name	Description	Data Type	Length	Codes
OCC_TIME	Time of eating occasion; supplements are assigned a default time of midnight on the intake day.	Date	19	MM/DD/YYYY hh:mm AM/PM
OCC_NAME	Name of eating occasion	Numeric	1	1 = Breakfast 2 = Brunch 3 = Lunch 4 = Dinner 5 = Supper 6 = Snack 7 = Just a Drink 8 = Supplements
EATWITH	Who was with the respondent for the meal	Numeric	1	1 = Eat Alone 2 = Family Member(s) 3 = Other(s) 4 = Family Member(s) and Other(s) 9 = Don't know Blank = Not applicable
WATCHTVUSECOMPUTER	Respondent's TV and computer use during the meal	Numeric	1	1 = Watching TV 2 = Using a computer 3 = Watching TV and using a computer 4=Neither of these Blank = Not applicable
LOCATION	Respondent's location while eating the meal	Numeric	2	1 = Home 2 = Fast food restaurant 3 = Other restaurant 4 = Cafeteria 5 = Bar or tavern 6 = Work (not in cafeteria) 7 = Car 8 = Sports or entertainment venue 9 = Some place else 98 = Don't know Blank = Not applicable ***ASA24™-Kids*** *only* 10 = School, cafeteria 11 = School, not in cafeteria
FOODNUM	FoodListTerm (FLT) or Supplement Sequence number within the recall	Numeric	3	1–999
FOODTYPE	Type of food reported	Numeric	1	1 = Primary 2 = Addition Blank=Not Applicable
FOODSRCE	Source of the food/most of the ingredients for the food	Character	250	Study-specified Food Source answer
CODENUM	Food code sequence number within a meal	Numeric	2	1–99 = Food code number

Field Name	Description	Data Type	Length	Codes
FOODCODE	USDA Food and Nutrient Database for Dietary Studies (FNDDS) Food code	Numeric	8	11000000–99999999 = Food code
MODCODE	Recipe Modification Code from FNDDS	Numeric	6	0 = No modification 100000–999999 = Modification code
HOWMANY	Amount of the food model represented in the field PORTIONCODE	Numeric	8.3	0.001–9999.999
SUBCODE	Portion subcode from FNDDS	Numeric	7	0 = Not applicable 1–9999999 = Code
PORTIONCODE	Food measure code from FNDDS	Numeric	5	0 = Not applicable MEASURE was GM, LB, or WO 1–99999 = Code
FOODAMT	Amount of food in grams; calculated using HOWMANY, SUBCODE, and PORTIONCODE data	Numeric	8.2	0.01–99999.99 = Amount in grams Blank = Not applicable
KCAL	Energy (kcal)	Numeric	12.6	
PROT	Protein (g)	Numeric	12.6	
TFAT	Total Fat (g)	Numeric	12.6	
CARB	Carbohydrate (g)	Numeric	12.6	
MOIS	Water (g)	Numeric	12.6	
ALC	Alcohol (g)	Numeric	12.6	
CAFF	Caffeine (mg)	Numeric	12.6	
THEO	Theobromine (mg)	Numeric	12.6	
SUGR	Sugars, total (g)	Numeric	12.6	
FIBE	Fiber, total dietary (g)	Numeric	12.6	
CALC	Calcium (mg)	Numeric	12.6	
IRON	Iron (mg)	Numeric	12.6	
MAGN	Magnesium (mg)	Numeric	12.6	
PHOS	Phosphorus (mg)	Numeric	12.6	
POTA	Potassium (mg)	Numeric	12.6	
SODI	Sodium (mg)	Numeric	12.6	
ZINC	Zinc (mg)	Numeric	12.6	
COPP	Copper (mg)	Numeric	12.6	
SELE	Selenium (mcg)	Numeric	12.6	
VC	Vitamin C (mg)	Numeric	12.6	
VB1	Thiamin (mg)	Numeric	12.6	
VB2	Riboflavin (mg)	Numeric	12.6	
NIAC	Niacin (mg)	Numeric	12.6	
VB6	Vitamin B-6 (mg)	Numeric	12.6	
FOLA	Folate, total (mcg)	Numeric	12.6	
FA	Folic acid (mcg)	Numeric	12.6	
FF	Folate, food (mcg)	Numeric	12.6	
FDFE	Folate, DFE (mcg_DFE)	Numeric	12.6	
VB12	Vitamin B-12 (mcg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
VARA	Vitamin A, RAE (mcg_RAE)	Numeric	12.6	
RET	Retinol (mcg)	Numeric	12.6	
BCAR	Carotene, beta (mcg)	Numeric	12.6	
ACAR	Carotene, alpha (mcg)	Numeric	12.6	
CRYP	Cryptoxanthin, beta (mcg)	Numeric	12.6	
LYCO	Lycopene (mcg)	Numeric	12.6	
LZ	Lutein + zeaxanthin (mcg)	Numeric	12.6	
ATOC	Vitamin E, alpha-tocopherol (mg)	Numeric	12.6	
VK	Vitamin K, phylloquinone (mcg)	Numeric	12.6	
CHOLE	Cholesterol (mg)	Numeric	12.6	
SFAT	Fatty acids, total saturated (g)	Numeric	12.6	
S040	4:0 (g)	Numeric	12.6	
S060	6:0 (g)	Numeric	12.6	
S080	8:0 (g)	Numeric	12.6	
S100	10:0 (g)	Numeric	12.6	
S120	12:0 (g)	Numeric	12.6	
S140	14:0 (g)	Numeric	12.6	
S160	16:0 (g)	Numeric	12.6	
S180	18:0 (g)	Numeric	12.6	
MFAT	Fatty acids, total monounsaturated (g)	Numeric	12.6	
M161	16:1 (g)	Numeric	12.6	
M181	18:1 (g)	Numeric	12.6	
M201	20:1 (g)	Numeric	12.6	
M221	22:1 (g)	Numeric	12.6	
PFAT	Fatty acids, total polyunsaturated (g)	Numeric	12.6	
P182	18:2 (g)	Numeric	12.6	
P183	18:3 (g)	Numeric	12.6	
P184	18:4 (g)	Numeric	12.6	
P204	20:4 (g)	Numeric	12.6	
P205	20:5 n-3 (g)	Numeric	12.6	
P225	22:5 n-3 (g)	Numeric	12.6	
P226	22:6 n-3 (g)	Numeric	12.6	
VITD	Vitamin D (D2 + D3) (mcg)	Numeric	12.6	
CHOLN	Choline, total (mg)	Numeric	12.6	
VITE_ADD	Added Vitamin E (mg)	Numeric	12.6	
B12_ADD	Added Vitamin B-12 (mcg)	Numeric	12.6	
FOODCOMP	This is an indicator which shows, per food, if the portion and/or nutrient data is complete or missing	Numeric	1	1=Data Complete 2=Data Missing

Field Name	Description	Data Type	Length	Codes
FOOD_DESCRIPTION	Description of Food, from either the FNDDS FoodCode Description or, where applicable, the ModCode description	Character	255	Text

Appendix E: Individual Foods and Pyramid Equivalents (INFMYPHEI) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date and time of the end of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
REPORTINGDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish

Field Name	Description	Data Type	Length	Codes
OCC_NO	System assigned sequence number for this eating occasion; eating occasions (meals) are sorted chronologically based on the times reported by respondent. By default, supplements are assigned the final sequence number in the intake.	Numeric	2	1–99
OCC_TIME	Time of eating occasion; supplements are assigned a default time of midnight on the intake day.	Date	19	MM/DD/YYYY hh:mm AM/PM
OCC_NAME	Name of eating occasion	Numeric	1	1 = Breakfast 2 = Brunch 3 = Lunch 4 = Dinner 5 = Supper 6 = Snack 7 = Just a Drink 8 = Supplements
EATWITH	Who was with the respondent for the meal	Numeric	1	1 = Eat Alone 2 = Family Member(s) 3 = Other(s) 4 = Family Member(s) and Other(s) 9 = Don't know Blank = Not applicable
WATCHTVUSECOMPUTER	Respondent's TV and computer use during the meal	Numeric	1	1 = Watching TV 2 = Using a computer 3 = Watching TV and using a computer 4 = Neither of these Blank = Not applicable

Field Name	Description	Data Type	Length	Codes
LOCATION	Respondent's location while eating the meal	Numeric	2	1 = Home 2 = Fast food restaurant 3 = Other restaurant 4 = Cafeteria 5 = Bar or tavern 6 = Work (not in cafeteria) 7 = Car 8 = Sports or entertainment venue 9 = Some place else 98 = Don't know Blank = Not applicable ***ASA24™-Kids*** *only* 10 = School, cafeteria 11 = School, not in cafeteria
FOODNUM	FoodListTerm (FLT) or Supplement Sequence number within the recall	Numeric	3	1–999
FOODTYPE	Type of food reported	Numeric	1	1 = Primary 2 = Addition Blank=Not Applicable
FOODSRCE	Source of the food/most of the ingredients for the food	Character	250	Study-specified Food Source answer
CODENUM	Food code sequence number within a meal	Numeric	2	1–99 = Food code number
FOODCODE	USDA Food and Nutrient Database for Dietary Studies (FNDDS) Food code	Numeric	8	11000000–99999999 = Food code
MODCODE	Recipe Modification Code from FNDDS	Numeric	6	0 = No modification 100000–999999 = Modification code
HOWMANY	Amount of the food model represented in the field PORTIONCODE	Numeric	8.3	0.001–9999.999
SUBCODE	Portion subcode from FNDDS	Numeric	7	0 = Not applicable 1–9999999 = Code
PORTIONCODE	Food measure code from FNDDS	Numeric	5	0 = Not applicable MEASURE was GM, LB, or WO 1–99999 = Code

Field Name	Description	Data Type	Length	Codes
FOODAMT	Amount of food in grams; calculated using HOWMANY, SUBCODE, and PORTIONCODE data	Numeric	8.2	0.01–99999.99 = Amount in grams Blank = Not applicable
KCAL	Energy (kcal)	Numeric	12.6	
PROT	Protein (g)	Numeric	12.6	
TFAT	Total Fat (g)	Numeric	12.6	
CARB	Carbohydrate (g)	Numeric	12.6	
MOIS	Water (g)	Numeric	12.6	
ALC	Alcohol (g)	Numeric	12.6	
CAFF	Caffeine (mg)	Numeric	12.6	
THEO	Theobromine (mg)	Numeric	12.6	
SUGR	Sugars, total (g)	Numeric	12.6	
FIBE	Fiber, total dietary (g)	Numeric	12.6	
CALC	Calcium (mg)	Numeric	12.6	
IRON	Iron (mg)	Numeric	12.6	
MAGN	Magnesium (mg)	Numeric	12.6	
PHOS	Phosphorus (mg)	Numeric	12.6	
POTA	Potassium (mg)	Numeric	12.6	
SODI	Sodium (mg)	Numeric	12.6	
ZINC	Zinc (mg)	Numeric	12.6	
COPP	Copper (mg)	Numeric	12.6	
SELE	Selenium (mcg)	Numeric	12.6	
VC	Vitamin C (mg)	Numeric	12.6	
VB1	Thiamin (mg)	Numeric	12.6	
VB2	Riboflavin (mg)	Numeric	12.6	
NIAC	Niacin (mg)	Numeric	12.6	
VB6	Vitamin B-6 (mg)	Numeric	12.6	
FOLA	Folate, total (mcg)	Numeric	12.6	
FA	Folic acid (mcg)	Numeric	12.6	
FF	Folate, food (mcg)	Numeric	12.6	
FDFE	Folate, DFE (mcg_DFE)	Numeric	12.6	
VB12	Vitamin B-12 (mcg)	Numeric	12.6	
VARA	Vitamin A, RAE (mcg_RAE)	Numeric	12.6	
RET	Retinol (mcg)	Numeric	12.6	
BCAR	Carotene, beta (mcg)	Numeric	12.6	
ACAR	Carotene, alpha (mcg)	Numeric	12.6	
CRYP	Cryptoxanthin, beta (mcg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
LYCO	Lycopene (mcg)	Numeric	12.6	
LZ	Lutein + zeaxanthin (mcg)	Numeric	12.6	
ATOC	Vitamin E, alpha-tocopherol (mg)	Numeric	12.6	
VK	Vitamin K, phylloquinone (mcg)	Numeric	12.6	
CHOLE	Cholesterol (mg)	Numeric	12.6	
SFAT	Fatty acids, total saturated (g)	Numeric	12.6	
S040	4:0 (g)	Numeric	12.6	
S060	6:0 (g)	Numeric	12.6	
S080	8:0 (g)	Numeric	12.6	
S100	10:0 (g)	Numeric	12.6	
S120	12:0 (g)	Numeric	12.6	
S140	14:0 (g)	Numeric	12.6	
S160	16:0 (g)	Numeric	12.6	
S180	18:0 (g)	Numeric	12.6	
MFAT	Fatty acids, total monounsaturated (g)	Numeric	12.6	
M161	16:1 (g)	Numeric	12.6	
M181	18:1 (g)	Numeric	12.6	
M201	20:1 (g)	Numeric	12.6	
M221	22:1 (g)	Numeric	12.6	
PFAT	Fatty acids, total polyunsaturated (g)	Numeric	12.6	
P182	18:2 (g)	Numeric	12.6	
P183	18:3 (g)	Numeric	12.6	
P184	18:4 (g)	Numeric	12.6	
P204	20:4 (g)	Numeric	12.6	
P205	20:5 n-3 (g)	Numeric	12.6	
P225	22:5 n-3 (g)	Numeric	12.6	
P226	22:6 n-3 (g)	Numeric	12.6	
VITD	Vitamin D (D2 + D3) (mcg)	Numeric	12.6	
CHOLN	Choline, total (mg)	Numeric	12.6	
VITE_ADD	Added Vitamin E (mg)	Numeric	12.6	
B12_ADD	Added Vitamin B-12 (mcg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
EQUIVFLAG	Equivalents Flag from USDA MyPyramid Equivalents Database (MPED)	Numeric	1	0=Food codes with few or no calories and zero (0) equivalents for all MyPyramid groups 1=Food codes where the number of equivalents for at least one MyPyramid group is greater than zero (0) 2=Food codes for infant formula for which equivalents values have not been assigned and, hence, appear as zero (0) equivalents
G_TOTAL	Total number of ounce equivalents from the grains group	Numeric	12.6	
G_WHL	Number of ounce equivalents of whole grains from the grains group	Numeric	12.6	
G_NWHL	Number of ounce equivalents of non-whole grains (refined grains) from the grains group	Numeric	12.6	
V_TOTAL	Total number of cup equivalents from the vegetables group. Includes cup equivalents from: V_DRKGR, V_ORANGE, V_POTATO, V_STARCY, V_TOMATO, and V_OTHER; does not include cup equivalents from LEGUMES	Numeric	12.6	
V_DRKGR	Number of cup equivalents of dark-green vegetables	Numeric	12.6	
V_ORANGE	Number of cup equivalents of orange vegetables	Numeric	12.6	
V_POTATO	Number of cup equivalents of white potatoes	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
V_STARCY	Number of cup equivalents of other starchy vegetables, excluding dry beans and peas (LEGUMES) and white potatoes (V_POTATO)	Numeric	12.6	
V_TOMATO	Number of cup equivalents of tomatoes	Numeric	12.6	
V_OTHER	Number of cup equivalents of other vegetables, not dark-green (V_DRKGR), orange (V_ORANGE), white potatoes (V_POTATO), other starchy vegetables (V_STARCHY), tomatoes (V_TOMATO), or dry beans or peas (LEGUMES)	Numeric	12.6	
F_TOTAL	Total number of cup equivalents from the fruits group	Numeric	12.6	
F_CITMLB	Number of cup equivalents of citrus fruits, melons, berries, and their juices	Numeric	12.6	
F_OTHER	Number of cup equivalents of fruits and juices, which are not citrus fruits, melons, berries, or their juices	Numeric	12.6	
D_TOTAL	Total number of cup equivalents from the milk group	Numeric	12.6	
D_MILK	Number of cup equivalents of milk	Numeric	12.6	
D_YOGURT	Number of cup equivalents of yogurt	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
D_CHEESE	Number of cup equivalents of cheese. Includes natural and processed cheese.	Numeric	12.6	
M_MPF	Ounces of cooked lean meat from beef, pork, veal, lamb, and game (M_MEAT); organ meats (M_ORGAN); frankfurters, sausages, and luncheon meat (M_FRANK); poultry (M_POULT); and fish and shellfish (M_FISH_HI and M_FISH_LO)	Numeric	12.6	
M_MEAT	Ounces of cooked lean meat from beef, pork, veal, lamb, and game, excludes lean meat organ meats (M_ORGAN) and frankfurters, sausages, and luncheon meat (M_FRANK)	Numeric	12.6	
M_ORGAN	Ounces of cooked lean meat from all types of organ meats, including that from beef, pork, veal, lamb, game, poultry, and fish	Numeric	12.6	
M_FRANK	Ounces of cooked lean meat from frankfurters, sausages, and luncheon meats	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
M_POULT	Ounces of cooked lean meat from chicken, turkey, and other poultry. Excludes poultry organ meats and poultry present in frankfurters, sausages, and luncheon meats	Numeric	12.6	
M_FISH_HI	Ounces of cooked lean meat from fish, shellfish, and other seafood that are high in the n-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Fish with > 0.5 grams of the n-3 fatty acids EPA and DHA per 85 grams (3 ounces) are classified as M_FISH_HI	Numeric	12.6	
M_FISH_LO	Ounces of cooked lean meat from fish, shellfish, and other seafood that are low in the n-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Fish with < 0.5 grams of the n-3 fatty acids EPA and DHA per 85 grams (3 ounces) are classified as M_FISH_LO	Numeric	12.6	
M_EGG	Number of ounce equivalents, where one egg is one ounce equivalent of cooked lean meat. Includes eggs and egg substitutes.	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
M_SOY	Number of ounce equivalents from soybean products where one cup of soy milk, 1/4 cup of cubed tofu, 1/4 cup of soy nuts, and one ounce of meat analog are one ounce equivalent of cooked lean meat each.	Numeric	12.6	
M_NUTSD	Number of ounce equivalents of cooked lean meat from nuts and seeds, where ½ ounce of nuts and seeds is one ounce equivalent of cooked lean meat.	Numeric	12.6	
LEGUMES	Number of cup equivalents of cooked dry beans and peas. May be counted as either vegetable or meat alternate. Refer to MPED documentation for guidelines and conversion factors for analyzing legumes as meat alternate.	Numeric	12.6	
DISCFAT_OIL	Grams of discretionary oil from the foods in each of the five major MyPyramid food groups and oils.	Numeric	12.6	
DISCFAT_SOL	Grams of discretionary solid fat from the foods in each of the five major MyPyramid food groups	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
ADD_SUG	Teaspoon equivalents of added sugars, where one teaspoon is the quantity of sweetener that contains the same amount of total nutrient sugar as one teaspoon of table sugar. [Added sugars are defined as white sugar, brown sugar, raw sugar, corn syrup, corn syrup solids, high fructose corn syrup, malt syrup, maple syrup, pancake syrup, fructose sweetener, liquid fructose, honey, molasses, dextrose, and dextrin that are eaten separately or as ingredients from processed or prepared foods.]	Numeric	12.6	
A_BEV	Total drinks of alcohol, where one drink is defined as 12 fluid ounces of beer, five fluid ounces of wine, and 1-1/2 fluid ounces of 80-proof distilled spirits	Numeric	12.6	
WHOLEFRT	Number of cup equivalents of whole fruit, i.e., cup equivalents from fruits in forms other than juice; variable provied by USDA for calculation of the HEI	Numeric	Float	

Field Name	Description	Data Type	Length	Codes
FOODCOMP	This is an indicator which shows, per food, if the portion and/or nutrient data is complete or missing	Numeric	1	1=Data Complete 2=Data Missing
FOOD_DESCRIPTION	Description of Food, from either the FNDDS FoodCode Description or, where applicable, the ModCode description	Character	255	Text

Appendix F: Daily Total Nutrients (TN) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date and time of the end of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
REPORTINGDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish

Field Name	Description	Data Type	Length	Codes
NUMFOODS	Total number of FLTs included in this recall	Numeric	3	1–999
NUMCODES	Total number of food codes included in this recall	Numeric	3	1–999
AMTUSUAL	Respondent's assessment of amount of food consumed on intake day	Numeric	1	1 = Much more than usual 2 = Usual 3 = Much less than usual 8 = Don't know
SALTTYPE	Type of salt added to foods at the table	Numeric	1	1 = Ordinary, sea, seasoned, or other flavored salt 2 = Lite salt 3 = Salt substitute 4 = None 5 = Other 8 = Don't know 9 = Not applicable
SALTFREQ	How often salt is added to foods at the table	Numeric	1	1 = Rarely 2 = Occasionally 3 = Very often 4 = Other 8 = Don't know 9 = Not applicable
SALTUSED	How often regular or seasoned salt is added to foods during preparation	Numeric	1	1 = Never 2 = Rarely 3 = Occasionally 4 = Very often 5 = Other 8 = Don't know 9 = Not applicable
KCAL	Energy (kcal)	Numeric	12.6	
PROT	Protein (g)	Numeric	12.6	
TFAT	Total Fat (g)	Numeric	12.6	
CARB	Carbohydrate (g)	Numeric	12.6	
MOIS	Water (g)	Numeric	12.6	
ALC	Alcohol (g)	Numeric	12.6	
CAFF	Caffeine (mg)	Numeric	12.6	
THEO	Theobromine (mg)	Numeric	12.6	
SUGR	Sugars, total (g)	Numeric	12.6	
FIBE	Fiber, total dietary (g)	Numeric	12.6	
CALC	Calcium (mg)	Numeric	12.6	
IRON	Iron (mg)	Numeric	12.6	
MAGN	Magnesium (mg)	Numeric	12.6	
PHOS	Phosphorus (mg)	Numeric	12.6	
POTA	Potassium (mg)	Numeric	12.6	
SODI	Sodium (mg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
ZINC	Zinc (mg)	Numeric	12.6	
COPP	Copper (mg)	Numeric	12.6	
SELE	Selenium (mcg)	Numeric	12.6	
VC	Vitamin C (mg)	Numeric	12.6	
VB1	Thiamin (mg)	Numeric	12.6	
VB2	Riboflavin (mg)	Numeric	12.6	
NIAC	Niacin (mg)	Numeric	12.6	
VB6	Vitamin B-6 (mg)	Numeric	12.6	
FOLA	Folate, total (mcg)	Numeric	12.6	
FA	Folic acid (mcg)	Numeric	12.6	
FF	Folate, food (mcg)	Numeric	12.6	
FDFE	Folate, DFE (mcg_DFE)	Numeric	12.6	
VB12	Vitamin B-12 (mcg)	Numeric	12.6	
VARA	Vitamin A, RAE (mcg_RAE)	Numeric	12.6	
RET	Retinol (mcg)	Numeric	12.6	
BCAR	Carotene, beta (mcg)	Numeric	12.6	
ACAR	Carotene, alpha (mcg)	Numeric	12.6	
CRYP	Cryptoxanthin, beta (mcg)	Numeric	12.6	
LYCO	Lycopene (mcg)	Numeric	12.6	
LZ	Lutein + zeaxanthin (mcg)	Numeric	12.6	
ATOC	Vitamin E, alpha-tocopherol (mg)	Numeric	12.6	
VK	Vitamin K, phylloquinone (mcg)	Numeric	12.6	
CHOLE	Cholesterol (mg)	Numeric	12.6	
SFAT	Fatty acids, total saturated (g)	Numeric	12.6	
S040	4:0 (g)	Numeric	12.6	
S060	6:0 (g)	Numeric	12.6	
S080	8:0 (g)	Numeric	12.6	
S100	10:0 (g)	Numeric	12.6	
S120	12:0 (g)	Numeric	12.6	
S140	14:0 (g)	Numeric	12.6	
S160	16:0 (g)	Numeric	12.6	
S180	18:0 (g)	Numeric	12.6	
MFAT	Fatty acids, total monounsaturated (g)	Numeric	12.6	
M161	16:1 (g)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
M181	18:1 (g)	Numeric	12.6	
M201	20:1 (g)	Numeric	12.6	
M221	22:1 (g)	Numeric	12.6	
PFAT	Fatty acids, total polyunsaturated (g)	Numeric	12.6	
P182	18:2 (g)	Numeric	12.6	
P183	18:3 (g)	Numeric	12.6	
P184	18:4 (g)	Numeric	12.6	
P204	20:4 (g)	Numeric	12.6	
P205	20:5 n-3 (g)	Numeric	12.6	
P225	22:5 n-3 (g)	Numeric	12.6	
P226	22:6 n-3 (g)	Numeric	12.6	
VITD	Vitamin D (D2 + D3) (mcg)	Numeric	12.6	
CHOLN	Choline, total (mg)	Numeric	12.6	
VITE_ADD	Added Vitamin E (mg)	Numeric	12.6	
B12_ADD	Added Vitamin B-12 (mcg)	Numeric	12.6	
DATACOMP	This is an indicator which shows if the portion and/or nutrient data was complete or missing for any food/beverage in the recall (refer to INF file to locate the individual foods/beverages with missing data).	Numeric	1	1=Data Complete 2=Data Missing

Appendix G: Daily Total Pyramid Equivalents (TNMYPHEI) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date and time of the end of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
REPORTINGDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish
NUMFOODS	Total number of FLTs included in this recall	Numeric	3	1–999

Field Name	Description	Data Type	Length	Codes
NUMCODES	Total number of food codes included in this recall	Numeric	3	1–999
AMTUSUAL	Respondent's assessment of amount of food consumed on intake day	Numeric	1	1 = Much more than usual 2 = Usual 3 = Much less than usual 8 = Don't know
SALTTYPE	Type of salt added to foods at the table	Numeric	1	1 = Ordinary, sea, seasoned, or other flavored salt 2 = Lite salt 3 = Salt substitute 4 = None 5 = Other 8 = Don't know 9 = Not applicable
SALTFREQ	How often salt is added to foods at the table	Numeric	1	1 = Rarely 2 = Occasionally 3 = Very often 4 = Other 8 = Don't know 9 = Not applicable
SALTUSED	How often regular or seasoned salt is added to foods during preparation	Numeric	1	1 = Never 2 = Rarely 3 = Occasionally 4 = Very often 5 = Other 8 = Don't know 9 = Not applicable
KCAL	Energy (kcal)	Numeric	12.6	
PROT	Protein (g)	Numeric	12.6	
TFAT	Total Fat (g)	Numeric	12.6	
CARB	Carbohydrate (g)	Numeric	12.6	
MOIS	Water (g)	Numeric	12.6	
ALC	Alcohol (g)	Numeric	12.6	
CAFF	Caffeine (mg)	Numeric	12.6	
THEO	Theobromine (mg)	Numeric	12.6	
SUGR	Sugars, total (g)	Numeric	12.6	
FIBE	Fiber, total dietary (g)	Numeric	12.6	
CALC	Calcium (mg)	Numeric	12.6	
IRON	Iron (mg)	Numeric	12.6	
MAGN	Magnesium (mg)	Numeric	12.6	
PHOS	Phosphorus (mg)	Numeric	12.6	
POTA	Potassium (mg)	Numeric	12.6	
SODI	Sodium (mg)	Numeric	12.6	
ZINC	Zinc (mg)	Numeric	12.6	
COPP	Copper (mg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
SELE	Selenium (mcg)	Numeric	12.6	
VC	Vitamin C (mg)	Numeric	12.6	
VB1	Thiamin (mg)	Numeric	12.6	
VB2	Riboflavin (mg)	Numeric	12.6	
NIAC	Niacin (mg)	Numeric	12.6	
VB6	Vitamin B-6 (mg)	Numeric	12.6	
FOLA	Folate, total (mcg)	Numeric	12.6	
FA	Folic acid (mcg)	Numeric	12.6	
FF	Folate, food (mcg)	Numeric	12.6	
FDFE	Folate, DFE (mcg_DFE)	Numeric	12.6	
VB12	Vitamin B-12 (mcg)	Numeric	12.6	
VARA	Vitamin A, RAE (mcg_RAE)	Numeric	12.6	
RET	Retinol (mcg)	Numeric	12.6	
BCAR	Carotene, beta (mcg)	Numeric	12.6	
ACAR	Carotene, alpha (mcg)	Numeric	12.6	
CRYP	Cryptoxanthin, beta (mcg)	Numeric	12.6	
LYCO	Lycopene (mcg)	Numeric	12.6	
LZ	Lutein + zeaxanthin (mcg)	Numeric	12.6	
ATOC	Vitamin E, alpha-tocopherol (mg)	Numeric	12.6	
VK	Vitamin K, phylloquinone (mcg)	Numeric	12.6	
CHOLE	Cholesterol (mg)	Numeric	12.6	
SFAT	Fatty acids, total saturated (g)	Numeric	12.6	
S040	4:0 (g)	Numeric	12.6	
S060	6:0 (g)	Numeric	12.6	
S080	8:0 (g)	Numeric	12.6	
S100	10:0 (g)	Numeric	12.6	
S120	12:0 (g)	Numeric	12.6	
S140	14:0 (g)	Numeric	12.6	
S160	16:0 (g)	Numeric	12.6	
S180	18:0 (g)	Numeric	12.6	
MFAT	Fatty acids, total monounsaturated (g)	Numeric	12.6	
M161	16:1 (g)	Numeric	12.6	
M181	18:1 (g)	Numeric	12.6	
M201	20:1 (g)	Numeric	12.6	
M221	22:1 (g)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
PFAT	Fatty acids, total polyunsaturated (g)	Numeric	12.6	
P182	18:2 (g)	Numeric	12.6	
P183	18:3 (g)	Numeric	12.6	
P184	18:4 (g)	Numeric	12.6	
P204	20:4 (g)	Numeric	12.6	
P205	20:5 n-3 (g)	Numeric	12.6	
P225	22:5 n-3 (g)	Numeric	12.6	
P226	22:6 n-3 (g)	Numeric	12.6	
VITD	Vitamin D (D2 + D3) (mcg)	Numeric	12.6	
CHOLN	Choline, total (mg)	Numeric	12.6	
VITE_ADD	Added Vitamin E (mg)	Numeric	12.6	
B12_ADD	Added Vitamin B-12 (mcg)	Numeric	12.6	
G_TOTAL	Total number of ounce equivalents from the grains group	Numeric	12.6	
G_WHL	Number of ounce equivalents of whole grains from the grains group	Numeric	12.6	
G_NWHL	Number of ounce equivalents of non-whole grains (refined grains) from the grains group	Numeric	12.6	
V_TOTAL	Total number of cup equivalents from the vegetables group. Includes cup equivalents from: V_DRKGR, V_ORANGE, V_POTATO, V_STARCY, V_TOMATO, and V_OTHER; does not include cup equivalents from LEGUMES	Numeric	12.6	
V_DRKGR	Number of cup equivalents of dark-green vegetables	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
V_ORANGE	Number of cup equivalents of orange vegetables	Numeric	12.6	
V_POTATO	Number of cup equivalents of white potatoes	Numeric	12.6	
V_STARCY	Number of cup equivalents of other starchy vegetables, excluding dry beans and peas (LEGUMES) and white potatoes (V_POTATO)	Numeric	12.6	
V_TOMATO	Number of cup equivalents of tomatoes	Numeric	12.6	
V_OTHER	Number of cup equivalents of other vegetables, not dark-green (V_DRKGR), orange (V_ORANGE), white potatoes (V_POTATO), other starchy vegetables (V_STARCHY), tomatoes (V_TOMATO), or dry beans or peas (LEGUMES)	Numeric	12.6	
F_TOTAL	Total number of cup equivalents from the fruits group	Numeric	12.6	
F_CITMLB	Number of cup equivalents of citrus fruits, melons, berries, and their juices	Numeric	12.6	
F_OTHER	Number of cup equivalents of fruits and juices, which are not citrus fruits, melons, berries, or their juices	Numeric	12.6	
D_TOTAL	Total number of cup equivalents from the milk group	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
D_MILK	Number of cup equivalents of milk	Numeric	12.6	
D_YOGURT	Number of cup equivalents of yogurt	Numeric	12.6	
D_CHEESE	Number of cup equivalents of cheese. Includes natural and processed cheese.	Numeric	12.6	
M_MPF	Ounces of cooked lean meat from beef, pork, veal, lamb, and game (M_MEAT); organ meats (M_ORGAN); frankfurters, sausages, and luncheon meat (M_FRANK); poultry (M_POULT); and fish and shellfish (M_FISH_HI and M_FISH_LO)	Numeric	12.6	
M_MEAT	Ounces of cooked lean meat from beef, pork, veal, lamb, and game, excludes lean meat organ meats (M_ORGAN) and frankfurters, sausages, and luncheon meat (M_FRANK)	Numeric	12.6	
M_ORGAN	Ounces of cooked lean meat from all types of organ meats, including that from beef, pork, veal, lamb, game, poultry, and fish	Numeric	12.6	
M_FRANK	Ounces of cooked lean meat from frankfurters, sausages, and luncheon meats	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
M_POULT	Ounces of cooked lean meat from chicken, turkey, and other poultry. Excludes poultry organ meats and poultry present in frankfurters, sausages, and luncheon meats	Numeric	12.6	
M_FISH_HI	Ounces of cooked lean meat from fish, shellfish, and other seafood that are high in the n-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Fish with > 0.5 grams of the n-3 fatty acids EPA and DHA per 85 grams (3 ounces) are classified as M_FISH_HI	Numeric	12.6	
M_FISH_LO	Ounces of cooked lean meat from fish, shellfish, and other seafood that are low in the n-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Fish with < 0.5 grams of the n-3 fatty acids EPA and DHA per 85 grams (3 ounces) are classified as M_FISH_LO	Numeric	12.6	
M_EGG	Number of ounce equivalents, where one egg is one ounce equivalent of cooked lean meat. Includes eggs and egg substitutes.	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
M_SOY	Number of ounce equivalents from soybean products where one cup of soy milk, 1/4 cup of cubed tofu, 1/4 cup of soy nuts, and one ounce of meat analog are one ounce equivalent of cooked lean meat each.	Numeric	12.6	
M_NUTSD	Number of ounce equivalents of cooked lean meat from nuts and seeds, where ½ ounce of nuts and seeds is one ounce equivalent of cooked lean meat.	Numeric	12.6	
LEGUMES	Number of cup equivalents of cooked dry beans and peas. May be counted as either vegetable or meat alternate. Refer to MPED documentation for guidelines and conversion factors for analyzing legumes as meat alternate.	Numeric	12.6	
DISCFAT_OIL	Grams of discretionary oil from the foods in each of the five major MyPyramid food groups and oils.	Numeric	12.6	
DISCFAT_SOL	Grams of discretionary solid fat from the foods in each of the five major MyPyramid food groups	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
ADD_SUG	Teaspoon equivalents of added sugars, where one teaspoon is the quantity of sweetener that contains the same amount of total nutrient sugar as one teaspoon of table sugar. [Added sugars are defined as white sugar, brown sugar, raw sugar, corn syrup, corn syrup solids, high fructose corn syrup, malt syrup, maple syrup, pancake syrup, fructose sweetener, liquid fructose, honey, molasses, dextrose, and dextrin that are eaten separately or as ingredients from processed or prepared foods.]	Numeric	12.6	
A_BEV	Total drinks of alcohol, where one drink is defined as 12 fluid ounces of beer, five fluid ounces of wine, and 1-1/2 fluid ounces of 80-proof distilled spirits	Numeric	12.6	
WHOLEFRT	Number of cup equivalents of whole fruit, i.e., cup equivalents from fruits in forms other than juice; variable provied by USDA for calculation of the HEI	Numeric	Float	

Field Name	Description	Data Type	Length	Codes
DATACOMP	This is an indicator which shows if the portion and/or nutrient data was complete or missing for any food/beverage in the recall (refer to INFMYPHEI file to locate the individual foods/beverages with missing data).	Numeric	1	1=Data Complete 2=Data Missing

Appendix H: Individual Supplements (INS) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date and time of the end of the 24 hour period for which intake is being reported	Numeric	22	MM/DD/YYYY hh:mm AM/PM
REPORTINGDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish

Field Name	Description	Data Type	Length	Codes
OCC_NO	System assigned sequence number for this eating occasion; eating occasions (meals) are sorted chronologically based on the times reported by respondent. By default, supplements are assigned the final sequence number in the intake.	Numeric	2	1–99
OCC_TIME	Time of eating occasion; supplements are assigned a default time of midnight on the intake day.	Date	19	MM/DD/YYYY hh:mm AM/PM
OCC_NAME	Name of eating occasion	Numeric	1	1 = Breakfast 2 = Brunch 3 = Lunch 4 = Dinner 5 = Supper 6 = Snack 7 = Just a Drink 8 = Supplements
SUPPLNUM	Supplement Sequence number within a meal	Numeric	3	1–999
SUPPLCODE	NHANES Dietary Supplement Database (NHANES-DSD) Supplement code	Numeric	10	1000000001–9999999999
SUPPLUNIT	Supplement unit	Character	50	Text
SUPPLAMOUNT	Supplement amount	Numeric	3	1-999
KCAL	Energy (kcal)	Numeric	12.6	
PROT	Protein (g)	Numeric	12.6	
TFAT	Total Fat (g)	Numeric	12.6	
CARB	Carbohydrate (g)	Numeric	12.6	
CAFF	Caffeine (mg)	Numeric	12.6	
SUGR	Sugars, total (g)	Numeric	12.6	
FIBE	Fiber, total dietary (g)	Numeric	12.6	
CALC	Calcium (mg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
IRON	Iron (mg)	Numeric	12.6	
MAGN	Magnesium (mg)	Numeric	12.6	
PHOS	Phosphorus (mg)	Numeric	12.6	
POTA	Potassium (mg)	Numeric	12.6	
SODI	Sodium (mg)	Numeric	12.6	
ZINC	Zinc (mg)	Numeric	12.6	
COPP	Copper (mg)	Numeric	12.6	
SELE	Selenium (mcg)	Numeric	12.6	
VC	Vitamin C (mg)	Numeric	12.6	
VB1	Thiamin (mg)	Numeric	12.6	
VB2	Riboflavin (mg)	Numeric	12.6	
NIAC	Niacin (mg)	Numeric	12.6	
VB6	Vitamin B-6 (mg)	Numeric	12.6	
FOLA	Folate, total (mcg)	Numeric	12.6	
FA	Folic acid (mcg)	Numeric	12.6	
VB12	Vitamin B-12 (mcg)	Numeric	12.6	
VARA	Vitamin A, RAE (mcg_RAE)	Numeric	12.6	
BCAR	Carotene, beta (mcg)	Numeric	12.6	
ACAR	Carotene, alpha (mcg)	Numeric	12.6	
CRYP	Cryptoxanthin, beta (mcg)	Numeric	12.6	
LYCO	Lycopene (mcg)	Numeric	12.6	
LZ	Lutein + zeaxanthin (mcg)	Numeric	12.6	
ATOC	Vitamin E, alpha-tocopherol (mg)	Numeric	12.6	
VK	Vitamin K, phylloquinone (mcg)	Numeric	12.6	
CHOLE	Cholesterol (mg)	Numeric	12.6	
SFAT	Fatty acids, total saturated (g)	Numeric	12.6	
S080	8:0 (g)	Numeric	12.6	
S100	10:0 (g)	Numeric	12.6	
S140	14:0 (g)	Numeric	12.6	
S160	16:0 (g)	Numeric	12.6	
S180	18:0 (g)	Numeric	12.6	
MFAT	Fatty acids, total monounsaturated (g)	Numeric	12.6	
M181	18:1 (g)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
PFAT	Fatty acids, total polyunsaturated (g)	Numeric	12.6	
P182	18:2 (g)	Numeric	12.6	
P183	18:3 (g)	Numeric	12.6	
P204	20:4 (g)	Numeric	12.6	
P205	20:5 n-3 (g)	Numeric	12.6	
P225	22:5 n-3 (g)	Numeric	12.6	
P226	22:6 n-3 (g)	Numeric	12.6	
VITD	Vitamin D (D2 + D3) (mcg)	Numeric	12.6	
CHOLN	Choline, total (mg)	Numeric	12.6	
VITE_ADD	Added Vitamin E (mg)	Numeric	12.6	
B12_ADD	Added Vitamin B-12 (mcg)	Numeric	12.6	
SUPPLCOMP	This is an indicator which shows, per supplement, if the portion and/or nutrient data is complete or missing	Numeric	1	1=Data Complete 2=Data Missing
SUPPL_DESCRIPTION	Name of the Supplement from the NHANES-DSD	Character	255	Text

Appendix I: Daily Total Supplements (TS) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date and time of the end of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
REPORTINGDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish
NUMSUPPLS	Total number of supplements included in this recall	Numeric	3	1–999
KCAL	Energy (kcal)	Numeric	12.6	
PROT	Protein (g)	Numeric	12.6	
TFAT	Total Fat (g)	Numeric	12.6	
CARB	Carbohydrate (g)	Numeric	12.6	
CAFF	Caffeine (mg)	Numeric	12.6	
SUGR	Sugars, total (g)	Numeric	12.6	
FIBE	Fiber, total dietary (g)	Numeric	12.6	
CALC	Calcium (mg)	Numeric	12.6	
IRON	Iron (mg)	Numeric	12.6	
MAGN	Magnesium (mg)	Numeric	12.6	
PHOS	Phosphorus (mg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
POTA	Potassium (mg)	Numeric	12.6	
SODI	Sodium (mg)	Numeric	12.6	
ZINC	Zinc (mg)	Numeric	12.6	
COPP	Copper (mg)	Numeric	12.6	
SELE	Selenium (mcg)	Numeric	12.6	
VC	Vitamin C (mg)	Numeric	12.6	
VB1	Thiamin (mg)	Numeric	12.6	
VB2	Riboflavin (mg)	Numeric	12.6	
NIAC	Niacin (mg)	Numeric	12.6	
VB6	Vitamin B-6 (mg)	Numeric	12.6	
FOLA	Folate, total (mcg)	Numeric	12.6	
FA	Folic acid (mcg)	Numeric	12.6	
VB12	Vitamin B-12 (mcg)	Numeric	12.6	
VARA	Vitamin A, RAE (mcg_RAE)	Numeric	12.6	
BCAR	Carotene, beta (mcg)	Numeric	12.6	
ACAR	Carotene, alpha (mcg)	Numeric	12.6	
CRYP	Cryptoxanthin, beta (mcg)	Numeric	12.6	
LYCO	Lycopene (mcg)	Numeric	12.6	
LZ	Lutein + zeaxanthin (mcg)	Numeric	12.6	
ATOC	Vitamin E, alpha-tocopherol (mg)	Numeric	12.6	
VK	Vitamin K, phylloquinone (mcg)	Numeric	12.6	
CHOLE	Cholesterol (mg)	Numeric	12.6	
SFAT	Fatty acids, total saturated (g)	Numeric	12.6	
S080	8:0 (g)	Numeric	12.6	
S100	10:0 (g)	Numeric	12.6	
S140	14:0 (g)	Numeric	12.6	
S160	16:0 (g)	Numeric	12.6	
S180	18:0 (g)	Numeric	12.6	
MFAT	Fatty acids, total monounsaturated (g)	Numeric	12.6	
M181	18:1 (g)	Numeric	12.6	
PFAT	Fatty acids, total polyunsaturated (g)	Numeric	12.6	
P182	18:2 (g)	Numeric	12.6	
P183	18:3 (g)	Numeric	12.6	
P204	20:4 (g)	Numeric	12.6	
P205	20:5 n-3 (g)	Numeric	12.6	
P225	22:5 n-3 (g)	Numeric	12.6	
P226	22:6 n-3 (g)	Numeric	12.6	
VITD	Vitamin D (D2 + D3) (mcg)	Numeric	12.6	
CHOLN	Choline, total (mg)	Numeric	12.6	
VITE_ADD	Added Vitamin E (mg)	Numeric	12.6	
B12_ADD	Added Vitamin B-12 (mcg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
DATACOMP	This is an indicator which shows if the portion and/or nutrient data was complete or missing for any supplement in the recall (refer to INS file to locate the individual supplement(s) with missing data).	Numeric	1	1=Data Complete 2=Data Missing

Appendix J: Daily Total Nutrients from Foods and Supplements (TNS) Data Dictionary

Variables marked with an asterisk (*) are reserved for future use.

Field Name	Description	Data Type	Length	Codes
USERNAME	Study abbreviation plus researcher provided ID	Character	30	Assigned per project
USERID	Unique system ID	Character	38	System assigned GUID such as {40C29DAB-4C7B-423F-956C-8A86B5E77B39}
RECALLNO	Recall number	Numeric	2	1–99
RECALLATTEMPT	Sequence number for attempt within recall	Numeric	2	1–99
RECALLSTATUS	The final status of this recall	Numeric	1	1=Food Details Complete, Supplement Details Complete; 2=Food Details Complete, Supplement Details Not Applicable; 3=Food Details Complete, Supplement Details Breakoff; 4=Food Details Complete, Supplement Details Not Started; 5=Food Details Breakoff; 7=Food Details Complete, No Supplements Reported
INTAKESTARTDATETIME	Date and time of the start of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
INTAKEENDDATETIME	Date and time of the end of the 24 hour period for which intake is being reported	Date	22	MM/DD/YYYY hh:mm AM/PM
REPORTINGDATE	The date that the last data were reported within the reporting period. Reporting period is the time within which respondents are allowed to report their intake.	Date	8	mmddyyyy
LANG	Language used for recall	Numeric	1	1=English 2=Spanish
NUMFOODS	Total number of FLTs included in this recall	Numeric	3	1–999

Field Name	Description	Data Type	Length	Codes
NUMSUPPLS	Total number of supplements included in this recall	Numeric	3	1–999
AMTUSUAL	Respondent's assessment of amount of food consumed on intake day	Numeric	1	1 = Much more than usual 2 = Usual 3 = Much less than usual 8 = Don't know
SALTTYPE	Type of salt added to foods at the table	Numeric	1	1 = Ordinary, sea, seasoned, or other flavored salt 2 = Lite salt 3 = Salt substitute 4 = None 5 = Other 8 = Don't know 9 = Not applicable
SALTFREQ	How often salt is added to foods at the table	Numeric	1	1 = Rarely 2 = Occasionally 3 = Very often 4 = Other 8 = Don't know 9 = Not applicable
SALTUSED	How often regular or seasoned salt is added to foods during preparation	Numeric	1	1 = Never 2 = Rarely 3 = Occasionally 4 = Very often 5 = Other 8 = Don't know 9 = Not applicable
KCAL	Energy (kcal)	Numeric	12.6	
PROT	Protein (g)	Numeric	12.6	
TFAT	Total Fat (g)	Numeric	12.6	
CARB	Carbohydrate (g)	Numeric	12.6	
MOIS	Water (g)	Numeric	12.6	
ALC	Alcohol (g)	Numeric	12.6	
CAFF	Caffeine (mg)	Numeric	12.6	
THEO	Theobromine (mg)	Numeric	12.6	
SUGR	Sugars, total (g)	Numeric	12.6	
FIBE	Fiber, total dietary (g)	Numeric	12.6	
CALC	Calcium (mg)	Numeric	12.6	
IRON	Iron (mg)	Numeric	12.6	
MAGN	Magnesium (mg)	Numeric	12.6	
PHOS	Phosphorus (mg)	Numeric	12.6	
POTA	Potassium (mg)	Numeric	12.6	
SODI	Sodium (mg)	Numeric	12.6	
ZINC	Zinc (mg)	Numeric	12.6	
COPP	Copper (mg)	Numeric	12.6	
SELE	Selenium (mcg)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
VC	Vitamin C (mg)	Numeric	12.6	
VB1	Thiamin (mg)	Numeric	12.6	
VB2	Riboflavin (mg)	Numeric	12.6	
NIAC	Niacin (mg)	Numeric	12.6	
VB6	Vitamin B-6 (mg)	Numeric	12.6	
FOLA	Folate, total (mcg)	Numeric	12.6	
FA	Folic acid (mcg)	Numeric	12.6	
FF	Folate, food (mcg)	Numeric	12.6	
FDFE	Folate, DFE (mcg_DFE)	Numeric	12.6	
VB12	Vitamin B-12 (mcg)	Numeric	12.6	
VARA	Vitamin A, RAE (mcg_RAE)	Numeric	12.6	
RET	Retinol (mcg)	Numeric	12.6	
BCAR	Carotene, beta (mcg)	Numeric	12.6	
ACAR	Carotene, alpha (mcg)	Numeric	12.6	
CRYP	Cryptoxanthin, beta (mcg)	Numeric	12.6	
LYCO	Lycopene (mcg)	Numeric	12.6	
LZ	Lutein + zeaxanthin (mcg)	Numeric	12.6	
ATOC	Vitamin E, alpha-tocopherol (mg)	Numeric	12.6	
VK	Vitamin K, phylloquinone (mcg)	Numeric	12.6	
CHOLE	Cholesterol (mg)	Numeric	12.6	
SFAT	Fatty acids, total saturated (g)	Numeric	12.6	
S040	4:0 (g)	Numeric	12.6	
S060	6:0 (g)	Numeric	12.6	
S080	8:0 (g)	Numeric	12.6	
S100	10:0 (g)	Numeric	12.6	
S120	12:0 (g)	Numeric	12.6	
S140	14:0 (g)	Numeric	12.6	
S160	16:0 (g)	Numeric	12.6	
S180	18:0 (g)	Numeric	12.6	
MFAT	Fatty acids, total monounsaturated (g)	Numeric	12.6	
M161	16:1 (g)	Numeric	12.6	
M181	18:1 (g)	Numeric	12.6	
M201	20:1 (g)	Numeric	12.6	
M221	22:1 (g)	Numeric	12.6	

Field Name	Description	Data Type	Length	Codes
PFAT	Fatty acids, total polyunsaturated (g)	Numeric	12.6	
P182	18:2 (g)	Numeric	12.6	
P183	18:3 (g)	Numeric	12.6	
P184	18:4 (g)	Numeric	12.6	
P204	20:4 (g)	Numeric	12.6	
P205	20:5 n-3 (g)	Numeric	12.6	
P225	22:5 n-3 (g)	Numeric	12.6	
P226	22:6 n-3 (g)	Numeric	12.6	
VITD	Vitamin D (D2 + D3) (mcg)	Numeric	12.6	
CHOLN	Choline, total (mg)	Numeric	12.6	
VITE_ADD	Added Vitamin E (mg)	Numeric	12.6	
B12_ADD	Added Vitamin B-12 (mcg)	Numeric	12.6	
DATACOMP	This is an indicator which shows if the portion and/or nutrient data was complete or missing for any item (food or supplement) in the recall (refer to INF and INS files to locate the individual foods and supplements with missing data).	Numeric	1	1=Data complete 2=Data missing

Appendix K: Modules

This section lists optional ASA24™ modules which may be administered to Respondents.

Location Module

The **Location** module is activated by default because the recall of location may provide context to aid Respondents in recalling what they ate at a meal; however, this module can be turned off by the Researcher, if desired.

- Home
- Fast food Restaurant
- Other Restaurant
- Cafeteria
- Bar or Tavern
- Work (not in Cafeteria)
- Car
- Sports or entertainment venue
- Some place else
- School, cafeteria *(ASA24™-Kids only)*
- School, not in cafeteria *(ASA24™-Kids only)*
- Don't know

Food Source Module

The **Food Source** module queries about food source—i.e., where did the respondents get the food (or most of the ingredients for it). Researchers may contact the **ASA24™ Help Desk** (ASA24Helpdesk@westat.com) to create a custom source list.

If the food source module is selected, the location module must also be selected.

- Supermarket or grocery store
- Convenience store
- Other store (any type)
- Produce stand, farmer's market, orchard, or community supported agriculture (CSA) organization
- Fast food or drive-thru restaurant
- Other restaurant, bar or tavern
- School cafeteria
- Other cafeteria

- Grown or caught by you or someone you know
- Sport, recreation, or entertainment venue
- Soup kitchen, shelter, or food pantry
- Street vendor or vending truck
- Vending machine
- Child care center, day care, or camp
- Residential dining facility or adult day care center
- Other
- Don't know

TV/Computer Use Module

The **TV and Computer Use** module collects information about TV and computer use during meals.

- Watching TV
- Using a Computer
- Watching TV and using a computer
- Neither of these

Ate With Module

The **Ate With** module collects information about who the respondent ate with.

- Yes (Indicate if Family Member or Other)
- No
- Don't Know

Supplement Module

The **Supplement** module collects data about the supplements that were taken during the past 24 hours.