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Diet and Supplements

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Tracking of Revisions to HCHS/SOL Protocol Manual

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DIETARY INTAKE, SUPPLEMENTS, AND BOTANICALS ASSESSMENT

1 Introduction

This manual of procedures has been developed for the Hispanic Community Health Study/Study of Latinos (HCHS/SOL) by the Nutrition Coordinating Center (NCC) at the University of Minnesota. NCC has been designated as the Nutrition Reading Center (NRC) for the HCHS/SOL and works in collaboration with the HCHS/SOL Coordinating Center at the University of North Carolina to direct overall dietary assessment activities for the HCHS/SOL field centers. The purpose of the manual is to describe the data collection and quality assurance procedures for the dietary and supplement intake assessment. It is essential that any person who is involved in the dietary and supplement data collection fully read and understand this manual.

2 Dietary Data Collection Staff

At least two dietary interviewers are needed at each field center to collect the dietary and supplement intakes. A lead interviewer is designated to provide supervision to the dietary data collection team. The lead interviewer may also be a regular data collector or may not, depending upon local personnel arrangements. All must complete the training and certification program conducted by the NRC staff.

2.1 Characteristics and Responsibilities of the Lead Interviewer

The lead interviewer has training in dietetics, food science, human nutrition, or home economics. He/she ideally is fluent in both Spanish and English and has skills to anticipate or detect possible problems that may affect the overall dietary data quality. He/she is responsible for supervising the collection and management of the dietary data and conducts local quality assurance of the dietary recalls, reviewing each intake record for completeness, data entry decisions, and identifies and corrects errors. He/she ensures the correct flow of data collection in each visit, and contacts the NRC HCHS/SOL coordinator as needed with questions about the Nutrition Data System for Research (NDSR) database or program. The lead interviewer at each field center is responsible for submitting NDSR-back up files (electronic copies of the dietary intake records) to the NRC on a weekly basis.

2.2 Characteristics and Responsibilities of the Dietary Interviewers

The dietary interviewers at all field centers must be bilingual (in written and spoken Spanish and English). He/she has knowledge of the different names of the Hispanic foods and preparations in the Latin American countries represented in the HCHS/SOL. Dietary interviewers are responsible for conducting the dietary and supplement recalls according to the HCHS/SOL dietary and supplement data collection protocols. They welcome the participant and have all materials ready for each interview. It is essential that the interviewer is comfortable with the NDSR software, and able to locate foods within the system with ease. On a regular basis, they review the Hispanic Foods Glossary and are aware of the language translations, because the same food may be referred to using different words. Dietary interviewers review the information collected immediately after finishing each dietary recall. They will also print the Record Properties Report, Foods Report, and Dietary Supplements Report for future reference.

3 NDSR Training and Certification

3.1 Overview of Training Program

All individuals involved in the dietary collection are required to be trained and certified by the NRC prior to using NDSR dietary data collection software to collect dietary and supplement recalls. Training includes: use of the NDSR software, conducting the research interview, protocol for dealing with Hispanic foods and use of the HCHS/SOL glossary, data review and documentation, data back-up, record management, and quality-control procedures.

3.2 Certification Requirements

All dietary interviewers must be certified by the NRC prior to collecting dietary data from HCHC/SOL participants. The certification process evaluates the trainee in the following areas: ability to conduct the dietary and supplements recalls according to set standards, ability to use the software appropriately and to locate hard-to-find foods, identify and enter missing foods and supplements, use notes appropriately, probe for details of ingredients added to foods, and handle difficult data entry problems such as a food with two different amount units or two different added fats. Certification of the dietary interviewers includes practice data collection for a minimum of ten study-appropriate participants, with review by the NRC HCHS/SOL coordinator in-person or by telephone. All dietary interviewers need to complete the following requirements:

3.2.1 Attend a NCC-Sponsored NDSR Training Workshop. Initial NDSR training took place at the University of North Carolina at Chapel Hill in August, 2007. Subsequent trainings are provided at the University of Minnesota as needed. All dietary interviewers who did not attend central training must be trained by personnel from the NRC.

3.2.2 Conduct a Baseline Recall with the NRC HCHS/SOL Coordinator. The baseline recall provides an opportunity as part of the training to receive individualized instructions for using NDSR: navigating the software and database and conducting the research interview. The baseline recall may be conducted in-person on the last day of training or by the telephone following the training. The NRC trainer observes this interview and provides immediate feedback.

3.2.3 Conduct at Least Ten Practice Recalls. Dietary interviewers complete at least ten practice recalls with volunteer Hispanic participants who are similar to potential participants in the study. This provides an opportunity for practice using the NDSR software to conduct dietary and supplement interviews and related data management activities. Backup files of the practice NDSR projects are sent to NRC for review and feedback. At least five practice interviews should be conducted in Spanish and five in English. One of the practice interviews must be completed in Spanish with the NRC HCHS/SOL coordinator.

3.2.4 Conduct a Final Recall with an NRC Trainer. The final recall allows the dietary interviewers to demonstrate the skills mastered and provides yet another opportunity to ask questions about the software, database, and other issues encountered to date. The final recall is conducted in Spanish and/or English by telephone. The NRC trainer and the NRC HCHS/SOL coordinator participate in the final recall.

3.3 Continuing Education

After completing the certification, dietary interviewers must continue to practice using the NDSR program to feel comfortable conducting the actual interviews.

3.4 Daily Usage of the NDSR Program

Daily usage of the NDSR program is highly encouraged to maintain NDSR skills learned during the training and certification process. Prior to study start-up, dietary interviewers (including the lead interviewers) will use the NDSR program to conduct at least one practice interview each day they work at the field center for the HCHS/SOL. Backup files of practice recalls are sent to the NRC HCHS/SOL coordinator every week until the HCHS/SOL data collection starts. The HCHS/SOL coordinator reviews and provides feedback as needed. This regular use of the software maintains familiarity with the software in case of prolonged time between training and examination of the first participants.

3.4.1 Monthly Updates from NRC. Regular written communications from NRC are distributed by email to each field center throughout the study, with information on data collection and management, common data-entry problems, and updates for new foods and dietary supplements not currently found in NDSR.

3.4.2 Dietary Inquiries. Field centers are contacted on a regular basis regarding questionable items noted during the NRC quality-control review. The queries address immediate questions and alert the dietary interviewers to the type of issues that are questioned and require confirmation and documentation on the NDSR dietary intake record.

3.4.3 Ongoing Monitoring of Dietary Interviewer Quality. To quantitatively evaluate reliability of the dietary and supplement interviews, each dietary interviewer conducts an interview with staff from the NRC three times per year after the start of regular data collection. The NRC staff person follows an exact script for this telephone interview. The script is changed three times each year of the data collection. This approach provides replicate measurements for analysis and helps identify possible problem issues in data collection.

3.4.4 Visits to the Field Centers. During the first year of data collection, the Reading Center staff visit each field center to provide an opportunity to observe the dietary and supplement data collection and answer questions from local field center staff. Dietary interviewers are encouraged to review the Manual of Procedures throughout the project period to remain knowledgeable concerning dietary- and supplement-specific protocols.

4 Space, Hardware, NDSR Software and Materials

Each field center is responsible for providing the dietary interviewers with a location that is free from distractions and that includes the tools necessary to complete the dietary and supplement assessments for the HCHS/SOL. Requirements include adequate computers, telephones, and secure storage for participant files and materials related to the dietary interviews. A participant file with information relevant to the dietary assessment must be available to the dietary interviewer until after the completion of the telephone recall. Access to a photocopy machine and printer is necessary for routine data collection activities.

4.1 NDSR Software

Copies of the NDSR are provided by NCC. Each field center received at least two copies of the software with use limited to the HCHS/SOL. Copies of NDSR are returned to NCC at the completion of the study. The Coordinating Center receives one copy of the software to be

retained throughout the study. Updates of NDSR are provided with each new release of the software, which occurs annually.

4.2 Computers

At least two computers are available for the dietary data collection at each field center. Portable storage devices or network backup systems should be in place to ensure that copies of the dietary and supplement recall interviews are protected from loss.

4.3 Computer Printers

At least one printer should be available at each field center. At the end of each dietary and supplement recall, the dietary interviewer prints NDSR reports that are used for local quality assurance and that serve as a secondary backup of the dietary and supplement recall.

4.4 Headset for the Telephone Interview

Each dietary interviewer should have his/her own headset for use in conducting the telephone dietary and supplement recall.

4.5 Calendar

A calendar is available for each dietary interviewer. This can be used at the beginning of each dietary interview to assist the participant in recalling yesterday's dietary intake and in looking at the month ahead when completing the Telephone Recall Availability form.

4.6 Amount Estimation Tools

NRC provides each field center with two sets of amount estimation tools which are used during the in-person interview. Included in this set are an assortment of household cups, glasses, spoons, bowls, a ruler, replicas of select foods (Nasco models), and a laminated copy of the Food Amounts Booklet. Accurate quantification of foods and beverages is essential for obtaining useful dietary data. Some individuals are much more adept than others in accurately estimating amounts of foods and beverages. To promote participant understanding of how to use the amount estimation tools, the dietary interviewers describe the use of each amount estimation tool at the clinic visit before proceeding to collect the 24-hour recall. No other food models or measuring devices are used for HCHS/SOL dietary and supplement recalls. If one or more of the food models are damaged throughout the study, the lead interviewer contacts the NRC for replacement.

4.7 Food Amounts Booklet

NRC provides each field center with copies of the Food Amounts Booklet for distribution to each participant for use in the telephone recall. During the in-person interview, orientation to the Food Amounts Booklet occurs in conjunction with other amount estimation tools to help the participant understand how to recall and estimate the quantities of foods consumed. At the end of the in-person interview, the dietary interviewer provides a Food Amounts Booklet to each participant with a reminder to keep it until the telephone recall has been completed.

4.8 Dietary Recall Forms

Dietary recall forms have been developed to assist the dietary interviewers in the data-collection process. The Dietary and Supplement Recall Checklist (**Appendix 1**) documents each step in the process of dietary data collection and local quality assurance. The Telephone Recall Availability

Form (**Appendix 2**) and the Telephone Contact Log (**Appendix 3**) are used to facilitate contacting the participant to conduct the telephone recall.

HCHS/SOL Dietary and Supplement Recall Checklist: The Dietary and Supplement Recall Checklist is initiated with each dietary recall and serves to document each step of local quality control. (One per dietary and supplement recall collected).

Telephone Recall Availability Form: At the end of each dietary recall a Telephone Recall Availability form is completed for each participant listing several possible days and times to receive the telephone recall. The participant must identify several best days and times since the telephone recall is unannounced. Instructions for completing this form are provided in Spanish and English.

Telephone Contact Log: A telephone contact log is kept for each participant to record all attempts to contact him/her. Detailed notes should be made about special situations including difficult-to-reach participants. If the dietary interviewer is not able to collect the telephone recall in the designated time window, the Telephone Contact Log serves as a record of his/her attempts.

5 General Guidelines for Working with HCHS/SOL Participants

Since the HCHS/SOL involves Hispanic participants with heritages from different Latin American countries, dietary interviewers need to be familiar with the traditions and dietary practices of the local Hispanic community and aware of the different names of foods, and plates in the different countries. Dietary interviewers should be enthusiastic about their job and have the ability to motivate the participant throughout the dietary interview, being sensitive to the overall length of the visit at the field center and the importance of the contribution from each participant.

5.1 Establishing Rapport

Because each participant is the primary respondent for the dietary and supplement recall, it is important for the dietary interviewer to be able to motivate him/her to provide complete and accurate information. He/she must always remain neutral and not let anything in words or manner express criticism, surprise, approval, or disapproval related to the participant's responses during the recall interview. Dietary interviewers should be sensitive by adapting a style and approach to make the participant comfortable. Every effort should be made to keep the dietary and supplement data collection as objective and non-judgmental as possible. He/she should avoid congratulating participants for eating certain foods or reacting with dismay to reports of other foods. The dietary interviewer should stress that he/she wants to know what the participant really ate and took as supplements and that honesty is appreciated. He/she should look for both verbal and non-verbal responses, be a good listener, and thank the participant for the information provided.

5.2 Privacy and Confidentiality

The dietary interviewer gains trust by assuring, before the recall begins, that everything the participant says is all right, and that there are no correct or wrong answers. Dietary intakes will not be discussed with other participants. Any necessary discussion between the dietary and lead interviewers about a specific dietary and supplement recall should be conducted in private and

not in the presence of others. Furthermore, the participant's personal information, such as contact information, is kept in folders in a secure location at the field center.

6 Field Center Procedures and Standardization of the Recalls

Dietary data collection takes place at each of the four sites across the U.S. (Bronx, Chicago, Miami, and San Diego). The first dietary recall is conducted in person at the field center, and the second interview is conducted over the telephone. Interviews may be conducted in Spanish and/or English at the discretion of the participant. It is essential to conduct the interviews in a space that is quiet and free from distractions. Dietary interviewers at all field centers follow the procedures provided by this manual, including the use of the food models, prompts and scripts to promote standardization and accuracy of the dietary and supplement data at all field centers.

6.1 The In-person Dietary and Supplement Recall Interview

The in-person interview takes place at each field center. The dietary data collection includes both the dietary and supplement recalls. The combined interview may last approximately 45 minutes. The dietary interviewer conducts the interview using direct data entry into NDSR software, and refers to the amount estimation tools to aid in quantifying amounts of foods and beverages. Due to the need to fast prior to the clinic visit, the interval covered by the in-person dietary interview is that 24-hour period preceding 10:00 pm of the night before the interview. At the end of the interview the dietary interviewer provides the participant with the Food Amounts Booklet and explains what to expect during the follow up telephone interview. The importance of their participation in the phone interview should be stressed. The interviewer then completes the Telephone Recall Availability form to identify available days and times for the second interview. The interviewer should get as much information as possible about the participant availability, as this will help to minimize the number of follow up calls that are needed before the participant is successfully reached.

6.2 The Telephone Dietary and Supplement Recall Interview

The telephone interview is collected at least five days and ideally within 45 days, following the initial examination interview. When 45 days have passed after the first recall, interviewers may continue calling the participant if needed. The collection of complete study data should take priority over the 45-day time line. Up to 10 calls can be made to try and reach the participant. These calls should be made at different times of the day and week, in order to maximize the chances of making contact. If after several attempts a participant can still not be contacted, interviewers should consult other staff members who may know the participant to develop another strategy. An unannounced second recall is preferred but a scheduled interview may need to be set up and this is acceptable. The type of interview (scheduled or unscheduled) should be recorded in NDSR.

The 24-hour interval covered by the second recall is the 24 hours preceding 12:00 midnight of the previous night. The telephone interview lasts approximately 35 minutes. The exact day of the week for the telephone recall is chosen by field center staff from available participant times, with an aim that the distribution of days across participants includes all days of the week possible given clinic schedules. The second recall is ideally collected over the phone, but if the participant comes back to the clinic to return the HCHS/SOL equipment or to complete an unfinished exam and he/she agrees to complete the interview at that time, the interviewer may complete the recall in-person, provided that at least 5 days has passed since the last interview.

The type of interview conducted (telephone or in-person) should be recorded in the NDSR header, using the field for Site ID. The first interview will always be scheduled and in-person. For the in-person interview record 1, in-person. The second interview is usually unscheduled but may be scheduled for the convenience of the participant. For the second interview, record 2U, phone unscheduled, 1U, in-person unscheduled or 2S, phone scheduled, 1S, in-person scheduled. The 24-hour dietary recall should not be collected without the Food Amounts Booklet. If at the time of the call the participant no longer has the Food Amount Booklet, a replacement should be mailed to him/her and the telephone recall should be attempted a few days later.

6.3 The Food Propensity Questionnaire Interview

The Food Propensity Questionnaire is administered one year after the study starts, during a follow-up telephone interview. Detailed procedures and training will be developed for this instrument later.

6.4 Prior to Conducting the Dietary Interview

On the day of the interview, before the participant arrives for the dietary interview, the dietary interviewer completes the NDSR Header tab using information from the participant file. Yesterday's date is recorded on the Header tab as the date of intake. The interviewer checks the interview station to ensure that the amount estimation tools are appropriately organized, that all necessary forms are in place, and that a current calendar is available for use in the in-person dietary recall and in planning for the telephone recall. When the participant arrives, the dietary interviewer welcomes the participants to the dietary and supplement recall portion of the visit. He/she introduces himself/herself in a friendly but professional manner and gives basic information about the dietary and supplement interview to the participant and responds to any questions the participant may have.

6.5 Setting the Language

Before starting the interview, the dietary interviewer sets the language with the participant. This process facilitates the flow of the interview. The dietary interviewer must be aware that it may be necessary to change the language to either Spanish or English at any time depending on the specific foods or supplements reported by the participant. In the event the participant chooses to have the interview in Spanish, the dietary interviewer needs to ask him/her if he/she prefers to be addressed as "tú" or "usted."

6.6 Introduction of the Interview

The dietary interviewer explains the importance of collecting complete and accurate information and how the interview will be conducted. Because the participant arrives at the examination centers fasting since 10:00 pm the night before the interview, the dietary interviewer explains that the focus of the interview is to recall everything he/she has to eat or drink during the 24 hours preceding the last meal (from 10:00 pm two days before the interview until 10:00 pm the night before the interview). The interviewer explains that after the dietary recall, he/she will ask about the dietary supplements taken. Dietary interviewers reassure participants that all information they collect is private and confidential.

6.7 Demonstrating the Amount Estimation Tools

Briefly, the dietary interviewer demonstrates how to use the amount estimation tools, including the Food Amounts Booklet, which is used during the interview. The dietary interviewer shows

the food models, measuring cups, spoons, grid, geometric shapes, and rulers, and explains that they can also be used to estimate fractions or multiple amounts such as half amounts or twice the amount. The dietary interviewer explains that many of the items he/she has shown can be used to describe the same amount and the participant can use whatever item best describes the amount eaten or drunk. The dietary interviewer also emphasizes that these items are not always needed to estimate amounts as many foods can be easily quantified as 1 can (soda), 1 small apple, or 1 MacDonald's hamburger. The dietary interviewer should reassure the participant that they do not need to worry about this part of the interview as they will help to guide them when the computer program is ready for the information.

7 General Guidelines for Conducting the Dietary and Supplement Interview

Procedures for administering the dietary and supplement interview have been established to help ensure standardization across field centers and to facilitate gathering of the data. Many of these procedures are imbedded in the NDSR program and documented in the NDSR User Manual. HCHS/SOL-specific procedures to ensure consistency of data collection among field centers are highlighted at the NDSR training workshop.

7.1 Using a Script

A standard script is used to introduce the dietary and supplement interview and to start the recall process. The dietary interviewer explains that the interview will last approximately 45 minutes and that all information he/she collects is confidential. The scripts provide consistency between dietary interviewers. The remainder of the dietary recall is guided by the NDSR on-line interview prompts which help to standardize the dietary interviewer questions.

7.2 Special Procedures for Interviewing Members of the Same Household

If the dietary interviews are collected the same day for members of the same household who may have consumed similar foods and beverages, the dietary interviewer collects information only from the participant he/she is interviewing. The participant is the only person who can provide the information to complete the dietary interview. No dietary and supplement data is collected from a family member instead of from the participant. It is important to retain the details about the food and beverages as collected from each participant even though one member may have more knowledge about specific food preparation. Each dietary recall is a record of what the participant reported and should not be changed after the interview to reflect information in another dietary recall.

7.3 Guidelines for Probing

Probing is the technique used by the dietary interviewer to stimulate discussion and to obtain more information about foods, beverages, and supplements reported. He/she probes when a participant's response is not meaningful or is incomplete, i.e., when it does not adequately answer the question or provide the information required by NDSR. Probing can be used to gather information about additional meals and snacks as well as additions to reported foods. The quality of the interview depends a great deal on the interviewer's ability to probe meaningfully and successfully. Probing techniques are covered extensively in the training workshop.

7.3.1 Unconsumed Portions. The amount the participant actually consumed is what should be entered, not what he/she was served or cooked for the entire family. Double check to ensure that the amount reported is what was consumed. Asking "Were you able to finish that?" "¿Usted

se pudo terminar todo?” or “Did you eat all of it?” “¿Usted se comió todo?” help to identify the unconsumed portions.

7.3.2 Unusual Portions. If something sounds unusual, the dietary interviewer should question it and not blindly accept the initial response. Redirecting questions and presenting appropriate alternatives from the amount estimation tools permit the participant to restate his/her initial response and allow the interviewer to verify, confirm, or correct an unusual portion. Confirmation of any unusual intake or portions should be documented using the NDSR Notes field by stating which amount estimation tool or picture in the Food Amounts Booklet was used. Specific information about confirming portions and documenting unusual portions is provided at the training workshop.

7.4 NDSR Food Search

The NDSR database is extensive, detailed and complex, with more than 18,000 foods and recipes, and it includes over 8,000 brand-name products. NDSR uses the food search text on information provided during the initial part of the interview when the participant first mentions the food. For example, if a participant reported “tacos” the food search results would include a number of items with “taco” in the name such as filled tacos, Taco Bell, taco meat, taco salad, taco sauce, and many others. The dietary interviewer selects the appropriate food from the available choices. If the NDSR food search cannot match the search text with a database food, NDSR returns a “no foods found” message suggesting that the dietary interviewer needs to check the spelling of the word, revise the search text, select “search all”, or select the hierarchy button and begin the food search at a general level.

7.4.1 Hispanic Foods. Many Hispanic foods are included in NDSR. Most of them are mixed dishes and have been included with their Spanish names and their description in English. To locate Hispanic mixed dishes in NDSR, the dietary interviewer may write the name of the dish either in Spanish or in English depending on the situation. For example, if a participant reports “arroz con pollo” the dietary interviewer types “arroz” and all mixed dishes that contain the text arroz appear on the Food Search window. In the event the dietary interviewer types “rice” he/she must select the option for “rice...” and in next Food Search window an option for “Hispanic...” will appear. The dietary interviewer selects this option and he/she is able to choose “arroz con pollo.” NDSR 2007 includes over 304 Hispanic foods, and additional Hispanic foods will be added as needed during the study.

7.4.2 Missing Foods. The dietary interviewer uses the Missing Food window to describe food details and to specify amounts of a food not found in NDSR. The lead interviewer uses the NCC New Food Request Form (**Appendix 4**) to submit a missing commercial, packaged and any other food than prepared dishes to NRC for resolution. The form is available online at <http://www.ncc.umn.edu/services/newfoodrequestform.php>. The lead interviewer includes all possible information about the missing food including the client number for the HCHS/SOL. NRC will resolve the missing food using the information provided in this form. For all mixed dishes (home- or restaurant-prepared dishes) not found in NDSR, the dietary interviewer collects as much information as possible from the participant regarding name of the dish or food, country of origin, ingredients, amount eaten, method of preparation, and others and uses the Missing Food window to include those details. After performing quality control tasks for dietary recall, the lead interviewer submits the weekly project including recalls that contains missing foods

(mixed dishes) through the FTP program. Missing Foods for HCHS/SOL are forwarded to the NRC HCHS/SOL coordinator who communicates the resolution to the field center for each missing food submitted. Resolutions are provided in the form of NDSR User Recipe backup projects. Each month NDSR backup files of User Recipe projects with new food resolution and Hispanic Recipes and User Product projects with new dietary supplement products are posted on the ftp site to make them available for all field centers.

7.5 Dietary Supplement Search in NDSR

The dietary interviewer uses the Product Search window to locate and describe dietary supplements in NDSR. NDSR prompts help the dietary interviewer obtain the complete name of the product. The dietary interviewer types the name of the dietary supplement and selects it or enters it as a Missing Product.

7.5.1 Missing Dietary Supplements. The dietary interviewer uses the Missing Product Detail window to add ingredient information for products not found in the Dietary Supplement Assessment Module (DSAM) database. The dietary interviewer completes the fields with information provided from the product label. It is important to enter as much information as possible from the product label during the in-person interview because this is the only opportunity to positively identify the exact supplement taken. The dietary interviewer selects “Add Ingredients” to insert all the ingredients listed on the label of the container, including the amounts and units. If the product has a long list of ingredients, the dietary interviewer includes at least the first three ingredients. He/she must always write a note specifying if all the ingredients listed on the container were entered or if the complete list was not entered due to time or other constraints. After performing local quality control of the dietary and supplement interview, missing products are resolved at NRC. Periodically, backup NDSR User Product projects are provided to the field centers to facilitate the entry of supplement products missing from the database.

7.6 Use of the Amount Estimation Tools

Participants are allowed to freely select any items from the amount estimation tools. Assistance is provided as needed during each interview to make sure that usage is appropriate. Participants may select a cup, bowl, replica food model, or specific page in the Food Amounts Booklet to quantify a food. Interviewers may need to suggest alternative options if the participant needs assistance or specifies an amount option that is not reasonable for the specific food. Notes should be made to indicate how the amount was estimated in the NDSR Notes field.

7.6.1 Standard Measuring Cups: ¼ cup, ⅓ cup, ½ cup, 1 cup. These four cup sizes may be used to describe amounts of any liquid or non-liquid food, including mixed dishes that can be easily visualized in a cup (e.g., cooked vegetables, soup, rice, sauce, ice cream). The dietary interviewer asks the participant whether or not the container was filled to the top. If not, he/she asks what proportion of the cup was filled. For example, the participant might indicate that the amount eaten was about a half of the ¼ measuring cup. This would be entered into NDSR as ⅛ cup. Measuring cups may also be turned over for estimating the volume of mound shapes for some foods, e.g. mashed potatoes.

7.6.2 Standard Measuring Spoons: ⅛ TS, ¼ TS, ½ TS, 1 TS, ½ TB, 1 TB. When using the measuring spoons, express the amount in terms of level spoonfuls. The amount contained in

a rounded spoonful can vary considerably depending on the consistency of the food and how the spoon was lifted or shaken. If the participant specifies a rounded spoonful, the dietary interviewer asks him or her to quantify the rounded part of the spoonful separately. For example, the participant says he/she sprinkled a tablespoon of powder sugar on his fruit. The dietary interviewer asks him if the tablespoon was about level. If he/she indicates that it was rounded or heaping tablespoon, the dietary interviewer asks the participant to estimate how much more than a level tablespoon this was. His answer might be an additional one-half of a level tablespoon. If the measuring spoon was not filled to the top, the interviewer asks the participant to estimate the proportion that was filled or to use a smaller measuring spoon. Measuring spoons may also be turned over for measuring small mounds or “dollops” of foods such as sour cream.

7.6.3 Representative Household Eating Bowls. Bowls have been selected to correspond with the pictures of bowls in the Food Amounts Booklet including: ½-cup bowl (small) (marked at ⅛ cup, ¼ cup, and ⅜ cup); 1 ½-cup bowl (medium) (marked at ⅜ cup, ¾ cup, and 1 ¼ cup); 3-cup bowl (large) (marked at ¾ cup, 1 ½ cup, and 2 ¼ cup); and 8-cup bowl (extra large) (marked at 2 cups, 4 cups, and 6 cups). Bowls may be used for quantification of any food that was eaten in a bowl of similar size to one of the bowls available for amount estimation. The dietary interviewer asks the participant to carefully estimate how full the bowl was. If the amount was between two of the markings, the dietary interviewer estimates the amount appropriately. For example, if the amount was between the 1 cup marking and the 1 ½ cup marking, calculate the difference and enter 1 ¼ cups.

7.6.4 Representative Household Drinking Glasses and Mugs. Glasses and mugs/cups have been selected to correspond to the pictures of glasses in the Food Amounts Booklet including: 5 fluid ounce glass (marked at 1 ¼ FO, 2 ½ FO and 3 ¾ FO); 10 fluid ounce glass (marked at 2 ½ FO, 5 FO, and 7 ½ FO); 12 fluid ounce glass (marked at 3 FO, 6 FO, and 9 FO); 32 fluid ounce glass (marked at 8 FO, 16 FO, and 24 FO); 11 fluid ounce mug (marked at 2 ½ FO, 5FO, and 7 ½ FO); and 8.5 fluid ounce wine glass (marked at 2 FO, 4FO, and 6 FO). The dietary interviewer asks the participant to estimate at what level the selected container was filled and how much of that amount was actually consumed. Then the dietary interviewer estimates the number of fluid ounces based on the markings. For example, if the participant indicates that the 12 fluid ounce glass was filled to about half way between the 9 and 12 FO markings, and that about half of this amount was consumed, the dietary interviewer enters 5 ¼ FO (half of 10 ½ FO).

7.6.5 Geometric Shapes. Geometric shapes, circles (1 ¾”, 2”, 3”, 4”, and 5” diameters), wedges (4” radius x 4.2” arc, 4.5” radius x 4.7” arc, 5” radius x 3.9” arc, 6” radius x 4.7” arc, and 8”radius x 4.2” arc), and squares (1 ¾”, 2”, 3”, 4”, and 5” square) are not intended to represent any one food. They are to be used to estimate portion size for any food that may be accurately described by a specific geometric shape. NDSR allows entering many solid foods using geometric shapes. Examples of foods that may be entered by shape include cornbread, pizza, and meatballs.

7.6.6 Container of Loose Dried Beans. One pound of navy beans is provided in a bowl-shape plastic container with lid. The purpose of the container of dried beans is to estimate the amount eaten when a participant expresses the amount in one or more handfuls (e.g. peanuts, sunflowers seeds, dry cereals, or raisins). The dietary interviewer asks the participant to grab a

handful of beans of about the same amount that he/she grabbed a handful of that particular food. The beans are transferred from the hand of the participant to one of the measuring cups or spoons to estimate the approximate amount eaten.

7.6.7 Ruler. The ruler is used to estimate dimensions in inches or centimeters. For example, the ruler may be used to describe the length, width, and height of a piece of cornbread.

7.6.8 Nasco Food Models. Replica models of foods are used for foods that are difficult to quantify and to help the participants learn to estimate amounts for foods using the 2-dimensional Food Amounts Booklet. Each dietary interviewer has available a set of the following Nasco food models:

- 1 Bolillo (Mexican bread) 5 ½" x 3", 2 ¼ oz;
- 1 set of two beef enchiladas, 3 ¾ oz;
- 1 broiled hamburger, 3 oz;
- 1 brownie, 2" square;
- 1 yellow frosted cake, 2" x 2" x 1 ¾" ;
- 1 refried beans, ½ cup;
- 1 roast beef, 3 oz;
- 1 boneless, skinless chicken breast, 3 oz; and
- 1 roasted spareribs, 2 ½ oz.

7.6.9 Representative Dinner Plate. The dinner plate is used for displaying food models; it is not to be used for estimating amounts.

7.7 Guidelines for Amount Probing

After introducing the HCHS/SOL amount estimation tools, the dietary interviewer emphasizes that these tools are not always needed for estimating amounts, he/she gives examples of amounts that can be expressed using food-specific unit such as a "large" apple, a "thin slice" of tomato.

Interviewers should not specify to the participant a particular method to use to estimate the amount of food or beverage. First, he/she asks a completely open-ended question such as, "how much juice did you drink?" "¿Cuánto jugo tomó?" the dietary interviewer encourages the participant to express the amount in his/her own words. If the participant appears to be having difficulty answering the question, the dietary interviewer may then suggest that he/she try to visualize the juice container and compare the amount with one of the amount estimation tools. If the participant continues having difficulty expressing the amount, the dietary interviewer might mention one or more of the options listed on the NDSR "Amounts Screen." The choice of available food specific unit options varies depending on the specific food item.)

The dietary interviewer reminds the participant that he/she needs to know the amount actually eaten or drunk, not the total amount on the plate or in the glass, or the amount that was prepared for the entire family. When an amount is given by the participant, the dietary interviewer asks if he/she ate all or only a part of that amount.

When using measuring cups or the bowls or beverage containers with markings, dietary interviewers do not assume that the container was full. Always, ask "To what line?" or "¿Hasta qué línea?" before entering the amount information.

If the participant reports eating more than one of an item that could be different sizes, the dietary interviewer needs to remember to ask if they were the same size.

When a participant reports drinking a beverage that may have contained ice, the dietary interviewer needs to remember to ask if ice was included in the amount reported. When the beverage is with ice and this is an option in NDSR, the interviewer specifies the amount with ice and NDSR calculates the amount without ice. If an automatic calculation is not available in NDSR, the participant is asked to specify the amount of beverage without ice. If he/she is unable to do this, a note is entered for subsequent resolution at NRC using the NDSR Data Entry Rules.

For many foods, the food-specific units such as small, medium, and large are further described using dimensions. It is not necessary to probe further for dimensions once the participant has specified a size because the dimensions are meant to be guidelines and do not need to be exact. However, if participants ask what is meant by small, medium, or large, the dietary interviewer may share this information with them. He/she must ask if the participant ate the entire piece, if not, indicate the proportion of the small, medium, or large piece that was consumed.

8 Conducting the Interview Using the Multiple-Pass Approach

The NDSR program automatically guides the dietary and supplement interview through the standard passes for collecting the dietary data.

8.1 PASS 1: Using the NDSR Quick List

The Quick List is used to collect an outline of the previous day's intake. It is designed to get participants to begin thinking about what and when they ate. Foods and beverages as reported by the participant are entered on the Quick List window along with the time eaten and meal name if provided by the participant at this time. If the participant does not volunteer the time of the meal or give a specific meal name during the Quick List, the dietary interviewer does not interrupt to ask for this information. NDSR will prompt for this information during the third pass.

8.2 PASS 2: Reviewing the Quick List

A review of the Quick List permits the dietary interviewer to obtain an overview of the day's intake and to note if there are large gaps in time, missed meals or missing beverages, and to insert the additional meals, snacks and foods or beverages recalled during this pass.

8.3 PASS 3: Collecting Complete Meal, Food, and Amount Detail

Pass 3 helps the participant remember specific details about what they ate. Information about the time, name, and location of the meal are provided in the Meal Information window. The dietary interviewer completes descriptive details for foods and beverages obtained during the first pass. At this point, the participant is asked about additions to foods and beverages entered on the Quick List. The dietary interviewer asks probing questions based on the information displayed in the NDSR window and utilizes the NDSR food search feature to locate foods, and to obtain complete details for food descriptions, preparation methods, and variable ingredients. After specifying the food, an open-ended question "How much did you eat (drink)?" "¿Cuánto comió (tomó)?" is asked to obtain the amount eaten. The participant may use any of the food amount estimation tools for the in-person interview, and he/she will be referred to the Food Amounts Booklet during the telephone interview, to describe the amount consumed. The dietary

interviewer should allow the participant to freely select from the available amount estimation tools. If they have any difficulty or select an inappropriate item, they should be encouraged to use a more appropriate item for the food eaten. The dietary interviewer should always refer the participant to the ruler when the participant gives dimensions in inches or centimeters. After entering the amount specified by the participant, NDSR displays a conversion to a common unit. The dietary interviewer needs to be able to visualize the amount reported and subsequently confirm with the participant any questionable amounts by using the amount estimation tools (e.g., 1 fluid ounce of juice or 4 cups of ice cream). The NDSR Note field is used to enter information to confirm atypical amounts as well as other unusual information (e.g., no beverage with a meal or any condiments and/or bread for sandwiches).

8.4 PASS 4: Reviewing the Recall

The fourth and final pass of the NDSR multiple-pass approach occurs after entering all of the food detail. During this review, the dietary interviewer probes for missed meals, beverages, and snacks and any other information that may have been over looked earlier. Edits are made as needed and notes are provided. Foods not found in NDSR are flagged as missing and complete details are collected from the participant and recorded on the NDSR Missing Food window. Information recorded includes detailed descriptions of what the food looks like as well as ingredients and the amount eaten. Lead interviewers use defined criteria to determine which foods are truly missing and will contact the NRC HCHS/SOL coordinator for guidance and resolution. Upon receipt of the resolution, the lead interviewer will edit the 24-hour dietary recall accordingly.

8.5 Documentation Using NDSR Note Field

NDSR notes are used to clarify contradictory, questionable, or unusual food items or amounts, or to document cases where typical companion foods are not consumed. Notes serve as communication between the dietary interviewers and the NRC HCHS/SOL coordinator. NDSR forces a note when the amount reported exceeds what has been established in the database as more than the usual amount consumed at one time; such amounts should be confirmed with the participant. In this case, the amount is corrected or a meaningful note is added to explain how the large amount was determined. NDSR food notes should match the information in the data entry. For example, if the dietary interviewer enters 6 cups of ice cream, the note should describe how the participant determined that he/she ate 6 cups and the number 6 should be re-typed in the note field to ensure that a typographical error did not occur. Further probing might reveal that the ice cream was scooped into the bowl and consequently a reduction in the 6 cups to account for the air space between the scoops needs to be factored in. Redirecting the participant to the mounds or measuring cups might result in a more realistic amount for the ice cream. Important information to be included in notes might concern missing meals or beverages, reference to the specific amount estimation tools picture and size used to estimate unusually larger or small portions, missing condiments, and modifications of foods such as a McDonald's cheeseburger, when only half of the bun was eaten. Notes allow the lead interviewer and the NRC to make appropriate changes to the recall to reflect what was actually eaten as well as confirming that the interviewer entered what the participant reported. Notes should not substitute for amounts eaten that are entered into the interview program because the note fields will not be electronically coded.

8.6 Printing NDSR Reports

As soon as possible following the dietary interview, the Record Properties Report (**Appendix 5**), the Foods Report (**Appendix 6**), and the Dietary Supplements Report (**Appendix 7**) should be printed, attached to the Dietary and Supplement Recall Checklist and placed in the respective participant folders.

9 Instructions for Conducting the 24-Hour Dietary Recall

9.1 Entering Meal Time

In general, the approach to collecting the 24-hour dietary recall is to find out when people eat and what they eat, versus asking what they ate for specific meals. The NDSR program does require a time for each eating occasion. Exact eating times are not important. A general time frame may be given with approximate times. When participants are not able to provide the time of meals and snacks, dietary interviewers may use the following times for a general framework, using additional times as needed for other meals or snacks reported:

Morning Meal: 7 am

Noon Meal: 12 pm

Afternoon Meal: 5 pm

Evening Snack: 8 pm

9.2 Entering the Meal Name

NDSR meal names include Breakfast, Lunch, Dinner/Supper, Snack, School Lunch, and Other (Desayuno, Almuerzo, Cena, Merienda o Colación, Almuerzo en el Colegio, y Otros). If the meal name is not stated by the participant, the dietary interviewer may ask the participant the meal name saying: “Was this your (insert most obvious meal name)?” Or “What would you call this meal?” “¿Fue este/esta su (insert most obvious meal name)?” or “¿Cómo llamaría usted a esta comida?” A meal name may be repeated several times in the context of a 24-hour intake. For example, the participant may report snacks several times throughout the day. If the name of the meal is obvious to the dietary interviewer, it is not necessary to ask the participant this question. For example, the first meal of the day may be labeled as breakfast and between-meal items may be labeled as snacks without probing.

9.3 Entering the Meal Location

NDSR meal locations include Home, Work, Friend’s Home, School, Day Care, Restaurant/Cafeteria/Fast Food, Deli/Take-out/Store, Community Meal Program, Party/Reception/Sporting Event, and Other (Casa, Trabajo, Casa de un amigo, Escuela, Guardería, Restaurante/Cafetería/Comida Rápida, Deli/Para Llevar/Tienda, Programa de Alimentación Comunitaria, Fiesta/Recepción/Eventos Deportivos, y Otros). The meal location helps to determine which food variables to enter during the 24-hour dietary recall. For example, many foods in NDSR differentiate between home prepared and restaurant prepared foods. Collecting information on the source of the meal aids in the food description process. Meal name and locations also identify the source of the food.

9.4 Entering the Visit Number

Visit 1 is used for the in-person interview. Visit 2 is used for the second interview (in-person or telephone) interview.

9.5 Entering the Site ID

Site ID refers to the location for the diet and supplement interview. 1, in-person is used for the interview completed in-person. 2, phone is used for the interview completed by telephone.

9.6 Minimize the Response Burden by Knowing When and How to Probe

It is important to be sensitive to responses of the participant in terms of the overall length of the interview and to be able to determine the level of information that the participant can reasonably provide. The following lists a number of ways in which the response burden can be minimized for the participant without compromising the overall quality of the dietary data.

9.5.1 Selecting NSDR Default Foods. As a general rule, the dietary interviewer should accept the participant's level of detail or opinion about the foods and beverages eaten. When it becomes clear that the participant is unable to provide the level of detail that the NSDR requires, an NSDR unknown should be selected. For example, if the participant had a meat empanada from a restaurant, the percent of fat will be unknown.

9.5.2 Preparation Methods and Details. When participants would not be expected to be able to provide the answers to the NSDR prompts, especially regarding preparation methods or other details as part of a restaurant meal, interviewers should select the "unknown" defaults provided in NSDR. For example, asking too many questions that cannot possibly be answered may lead the participant to respond inappropriately just to provide an answer to the question.

9.5.3 Unknown Brand Name Products and Fast Food Items. If a category of foods within the NSDR database includes a brand-name or fast food listing and the specific item reported is not available, it should be entered as NSDR missing food and submitted to NCC.

9.5.4 Entering Assembled Foods. While NSDR contains many default sandwiches, tacos, and similar assembled foods, it is important for the dietary interviewer to probe to find out if the participant can describe the item eaten in terms of the ingredients and the amounts of each ingredient. If the participant can report each component of the sandwich, it is entered using the NSDR Assembled Food feature, entering each ingredient and amount. If the sandwich or taco is reported to be from a national fast food restaurant chain, the corresponding NSDR entry is selected. Any modifications made to national fast food restaurant meals, such as not eating the bun for a McDonald's hamburger or ordering a Subway sandwich with only ham and lettuce should be recorded in the Note field for later adjustment by the lead interviewer or the dietary interviewer.

9.5.5 Entering Tossed Salads, Mixed Dishes, Soups, and Similar Foods. If a participant reports a tossed salad, mixed dish, or soup, the dietary interviewer will select the closest database match, based on the description of the food. As a rule, amounts of the individual ingredients in these foods should not be entered. The dietary interviewer will have the participant estimate the total amount consumed and the NSDR standard recipe will determine the amounts of the individual ingredients. For most food combinations, generic entries based on the types of ingredients are available. When unable to find a database food that is a good fit, the dietary interviewer should collect as much detail as possible from the participant, including the amount eaten. This detail is entered as an NSDR Missing Food. It is critical that with the written description, other reviewers can visualize the food and the amount eaten. Vague descriptions

and incomplete amounts are unlikely to be interpreted correctly during data cleaning and quality assurance.

9.5.6 Become Familiar with Foods that Hispanics Frequently Report. Since Hispanic foods may be an important part of the diet of the HCHS/SOL participants, it is recommended that dietary interviewers visit the local supermarkets and fast food restaurants to become familiar with the Hispanic foods available at their location, especially if dietary interviewers do not normally have exposure to these types of foods.

9.5.7 Supplements Reported During the 24-Hour Recall. The dietary interviewer should NOT enter any dietary supplements when recording the 24-hour dietary recall. If a participant reports a supplement during the 24-hour dietary interview, the dietary interviewer should thank the participant and tell him/her, that he/she will be asked about the use of dietary supplements later in the interview.

9.6 Entering Amounts

There are four types of units provided by NDSR for describing foods amounts. These include: food-specific units, geometric food shapes, weight, and volume. The availability of units depends on the particular food item. Weight is always an option, and volume is an available option for nearly all foods and beverages in NDSR. Each of the four unit types is described below.

9.6.1 Food-Specific Units. Food-Specific Units (FSU) (e.g., slice, each, small, single serving bag, piece) are available for many foods in NDSR. FSU are most frequently available for packaged items such as one piece of hard candy or an ice cream bar. However, foods that may seem “standard” can come in several sizes (e.g., nugget, regular, extra large). These units are all options in NDSR. In general, it is preferable to have the participant describe the portion consumed using the amount estimation tools and amount unit options in NDSR as a guide to help quantify the food. Because the use of the Food Amounts Booklet often results in using dimensions and suggesting the food shapes, the dietary interviewer should look at the dimensions associated with the FSU to get a sense of how realistic the dimensions reported might be. In general, it is better to use the “small”, “medium” or “large” FSU to describe pieces of chicken and fruit. These foods tend to be overestimated when dimensions are used because the visual image includes refuse (e.g., bone, core, peel). FSU should also be considered for many baked goods when dimensions result in unrealistic amounts as compared with the standard amounts in NDSR.

9.6.2 Geometric Food Shapes. Shapes (e.g., circle, rectangle, wedge, cube) allow the participant to use two or three dimensions to describe the amount of food eaten. Food shapes in NDSR are measured using inches to describe the length, width, height or diameter depending on the food. In the event a participant reports the food shape in centimeters, the dietary interviewer refers him/her to the ruler that has inches and centimeters. Notes should be used for any unusual dimensions, making clear that the dietary interviewer has visualized the food and is aware of any unusual dimensions and has probed sufficiently to be sure the participant has given the best description for the amount consumed. Shapes are not permitted for describing liquid and in many situations the FSU is a better way to quantify the food item because few foods have true geometric shapes.

9.6.3 Weight Measures. Weight measurements (e.g., ounce, pound, gram) should only be used if the exact weight is available from a package label or if the participant reports an amount using an amount estimation tool that represents weight for that specific food. Pictures or meat replicas can be used to assist participants in describing their portion sizes of cooked meat including roast, steak, pork chop, and ham. (Note: chicken parts/pieces in the Food Amounts Booklet do not have weights associated with them and are considered food-specific units.) The meat replica pictures (page 16 of the Food Amounts Booklet) should not be used to represent cold cuts, sausage, meat loaf, or fish because the same volume for these items (meat replicas) will have different weight. NDSR will require the dietary interviewer to determine if the meat portions include either bones or fat, and if the fat was eaten. Consequently, the dietary interviewer should clarify with the participant if the amount of meat or fish envisioned by looking at the picture or the replica includes bone or other refuse.

9.6.4 Volume Measures. Volume measures (e.g., cup, fluid ounce, tablespoon, pint) are used to describe amounts for all liquid items, beverages, and non-liquid foods served or quantified in bowls, cups, or glasses. Examples in the Food Amounts Booklet include pictures of measuring cups and spoons, bowls, and glasses. When volume measurements are being used to describe non-liquid foods, NDSR will first prompt the interviewer to select an amount unit (e.g., cup, teaspoon, tablespoon), and then the quantity and form in which the food was eaten (e.g., sliced, diced, solid). The form determines the amount that can be placed in a particular container and factors in the density of the food item. For most beverages, NDSR will prompt the dietary interviewer to ask if the amount included ice, consequently he/she should clarify if the amount the participant reports includes ice.

9.7 Entering Quantity

Once the unit is selected, the NDSR prompts for the quantity which may be entered as whole numbers, fractions or decimals. A “common unit” is assigned to each food item in NDSR. If the unit entered is not the common unit for that particular food, the amount displayed will include the common unit in parentheses. This information helps the dietary interviewer judge the appropriateness of the amount entered. Also, every food in NDSR is associated with a “maximum serving” amount, if the amount exceeds the established maximum serving size, the system will flag the amount and require a note.

9.8 Confirming the Amount

When the dietary interviewer is recording the intake of each food, it is important to confirm that the participant is describing the amount eaten, not the amount served. Additional probes to confirm amounts include: “Did you eat/drink all of the milk on your cereal?” “Were you able to finish that sandwich?” “¿Usted se tomó toda la leche que había en sus cereales?” “¿Se terminó todo el sándwich?”

10 Instructions for Conducting the Dietary Supplement Recall

10.1 Overview

The goal of the dietary supplement recall is to assess use of all types of dietary supplements and over-the-counter antacids. Over-the-counter antacids are included in this assessment because many of these products contain calcium. For the in-person interview, the period covered for

dietary supplement intake is the same time period covered by the 24-hour dietary recall and the past 30 days. For the telephone (or second interview) this will be limited to the same time period as covered by the 24-hour dietary recall but will not include past 30 days. First, ten questions are asked to assess whether any dietary supplement or over-the-counter antacids were taken during the recall period (Tier 1). If one or more products are reported in response to these questions the interviewer enters the full product name into a search window in NDSR to identify a matching product in the database. Information from the product container is useful in conducting this search. After the product is entered, the participant is asked how many times they used the product during the recall period and how many pills/tablets he/she took each time they used the product (Tier 2). The final step (Tier 3) involves reviewing the information collected to allow for corrections and additions.

10.2 Pre-interview Activities for In-Person Interviews

Participants are asked to bring to the interview the bottles/containers for all of the dietary supplements and over-the-counter antacids they use. They are also asked to bring the bottles/containers for any over-the-counter and prescription medications they use (for the medication inventory which is conducted separate from the dietary recall and supplement assessment). To encourage compliance with these requests, participants are mailed a letter that includes a listing of the types of products they should bring to the interview, with a bag provided for transporting the bottles/containers. As part of a reminder telephone call made to participants the day prior to the in-person interview, participants are reminded to bring product containers/bottles to the clinic visit.

10.3 Period of Dietary Supplement Recall

For the first in-person interview, the dietary supplement recall covers the same period of time as the 24-hour dietary recall and the past 30 days. For the telephone interview (or second interview) it covers only the 24-hour dietary recall period. In the event the participant brings a dietary supplement container to the in-person interview that was not taken during the past 24 hours or the past 30 days, it is NOT to be recorded during the recall, even when the participant reports he/she typically takes it but just forgot to take it yesterday (the day previous to the interview). Conversely, if a participant forgets to bring the bottle/container for a supplement used during the recall period, the product should still be recorded.

10.4 Completing Tier 1

Once the 24-hour dietary recall has been completed, the dietary interviewer tells the participant that they will now be asked about their use of dietary supplements and non-prescription antacids. Then, a series of ten questions are asked to screen for use of dietary supplements during the recall period. All ten screening questions must be asked even if the participant reports that he/she did not take any supplements. If this situation arises the dietary interviewer should say: “Although you didn’t take any supplements over the past 24 hours and/or 30 days, I still need to ask each of these questions” “A pesar de que usted no consumió ningún suplemento dietético en las últimas 24 horas y/o 30 días, yo necesito que usted responda cada una de las siguientes preguntas” All ten questions must be asked because some products, such as fiber supplements, may not be perceived as dietary supplements by some people.

If the participant answers ‘no’ to each of the ten screening questions, the dietary and supplement interview is completed. If one or more products are reported in Tier 1, the next stage of questioning (Tier 2) is initiated.

10.5 Completing Tier 2

During the second tier of the supplement recall, the dietary interviewer refers to the containers the participant brought for the in-person interview for use in selecting the supplement products from the DSAM database. For interviews conducted over the telephone, the participant must be asked to gather the bottles/containers for the products he/she reported in Tier 1. If the participant did not bring the container (in-person interview) or cannot find the container (telephone interview) for a product, the dietary interviewer should first try to find a matching product in the database based on the descriptive information the participant is able to provide. If the participant cannot recall enough detail about the product to allow for finding a match in the database, a generic or default supplement available in the database should be selected, and a note should be provided in the “notes” field to indicate that this was done. If a generic or default product cannot be located in the database, the interviewer should enter the supplement as a missing product.

After a matching product in the database has been selected or the Missing Product window has been completed, the participant is asked how many times he/she took the product during the recall period and how many pills/tablets they took each time they used the product.

10.6 Completing Tier 3

The final Tier of the DSAM database occurs after entering all of the product details. During Tier 3, the dietary interviewer reviews with the participant the name and details about all products reported during the supplement recall. During Tier 3, the dietary interviewer can add a product and make any correction.

10.7 Including the Ingredients of a Missing Product

The dietary interviewer enters a Missing Product when a reported supplement cannot be found in the Dietary Supplement Assessment Module (DSAM) database. He/she uses the product label to include all possible information about the missing supplement, including a list of the ingredients. The dietary interviewer should list at least the first three ingredients found in the container and a note should be made specifying if all the ingredients were added or not in the Missing Product window. The list of ingredients should include amounts and units of each ingredient. If the unit cannot be selected because it is not available, the dietary interviewer makes a note of the unit on the product label.

11 Conducting the 24-Hour Dietary Recall

11.1 Introduction

The dietary interviewer introduces him/herself to the participant. He/she should be friendly and calm. The dietary interviewer should always give neutral responses to whatever the participant tells them. He/she starts the interview by saying: “Hi (insert participant’s name). My name is (insert your name). How are things going today?” “Buenos días/tardes Sr./Sra. (insert participant’s name). Mi nombre es (insert your name). ¿Cómo ha estado?”

Pause, wait for their response, spend a minute or so to establish rapport, and proceed: “I’m going to be asking you about what you ate and drank. I’ll enter the information on a computer to get what we need. This is easy because it’s just about what you ate yesterday. There are no right or wrong answers. Whatever you ate is okay. Do you have any questions for me? Are you ready? I’m sure you’ll do a great job of helping me!” “Yo le voy a preguntar sobre todo lo que comió y bebió ayer. Voy a ingresar la información en la computadora para obtener lo que necesitamos. Esto es fácil porque es sólo sobre lo que usted comió ayer. No hay respuestas correctas o incorrectas. Lo que sea que haya comido esta bien. ¿Tiene alguna pregunta? ¿Esta listo/a? ¡Estoy segura de que usted hará un buen trabajo ayudándome!”

11.2 Entering the NDSR Quick List

The dietary interviewer proceeds by asking the participant to make a list of all the foods and beverages he/she had yesterday. He/she says: “First, we’ll make a list in the computer of what you ate and drank. Then I will ask you some more questions and we’ll figure out how much you had to eat. Do you have any questions?” “Primero, vamos a listar en la computadora todo lo que comió y bebió ayer empezando desde que se levantó. Luego yo le haré otras preguntas y determinaremos cuánto comió. ¿Tiene alguna pregunta?”

Pause, wait for and respond to questions, and proceed: “What was the first time you had something to eat or drink?” “¿Cuándo fue la primera vez que usted comió o bebió algo?” Enter the response then as needed say: “What did you have at that time?” “¿Qué comió a esa hora?” The interviewer enters the information reported by the participant on the NDSR Quick List screen, not requiring the participant to give time, meal name, or meal location. A slash must be used for each eating occasion but no further detail is needed because NDSR will prompt later for the time and meal name. Above all, the interviewer should let the participant think and say whatever comes to mind about the previous day’s intake, avoiding interruptions that may be distracting to the participant.

11.3 Reviewing the NDSR Quick List

During the review of the Quick List, it is important that the dietary interviewer try to visualize the entire 24-hour period in terms of what has been reported so far. This is a good opportunity to identify and ask about gaps of time when nothing has been reported and to check for frequently forgotten foods, such as beverages and snacks throughout the day. The dietary interviewer verifies all of the entries on the Quick List and probes for missed items by reading the list back to the participant and asking as appropriate: “I am going to read back what you have told me. Let me know if you want to add or change anything. Can you think of anything else you ate or drank yesterday that we haven’t put on the list? Do you remember if you got up during the night (after 10:00 pm or midnight) and had anything to eat or drink? Did you have any snacks after work or before bed?” “Le voy a leer lo que me ha dicho. Avísame si quieres cambiar o añadir algo. ¿Puede pensar en algo más que usted comió o bebió ayer que no hayamos listado? ¿Se acuerda si se levantó durante la noche (después de las 10 de la noche o la medianoche) y comió o bebió algo. ¿Comió alguna merienda/bocado/colación después del trabajo o antes de ir a dormir?” Any errors should be corrected, and any additional foods the participant may report are added at this time.

11.4 Collecting Meal Information Detail

The dietary interviewer begins by saying: “Next we’ll go over our list and I will ask you some questions about each food. You can use the amounts estimation tools at any time to let me know how much you had.” “Ahora vamos a repasar nuestra lista y le haré algunas preguntas sobre cada uno de los alimentos listados. Usted puede usar los modelos de alimentos en cualquier momento para decirme cuanto comió.” NDSR brings up the Meal Information window. The dietary interviewer uses this opportunity to ask questions about meal time, meal name, and meal location if this information was not provided earlier during the Quick List.

11.5 Asking About Additions

The dietary interviewer asks about additions to every food. An on-line prompt reminds him/her to say: “The first thing on your list is (NDSR inserts the name of each food).” “Lo primero en su lista es (NDSR inserts the name of each food).” Then, reading from the NDSR screen the dietary interviewer says: “Did you add anything to the (NDSR inserts the name of the food)?” “¿Le añadió algo a (NDSR inserts name of the food)?” The dietary interviewer continues asking the additions question for each food until a “no” response is received.

11.6 Collecting Complete Food and Amount Detail

The NDSR Food Search window prompts the dietary interviewer for each available level of detail during this third pass. An on-line prompt reminds him/her to begin by saying: “What type of (insert name of food) was it?” “¿Qué tipo de (insert name of the food) era?” The dietary interviewer continues defining the food, selecting food variables as required on each screen. “Unknown” should be entered if the participant cannot describe the food in detail (e.g., if it was prepared at a restaurant).

An on-line prompt for the amount reminds the dietary interviewer to say: “How much did you eat (drink)?” “¿Cuánto comió? o tomó?” Some foods require additional quantity details, with required fields indicated in yellow. After entering the amount provided by the participant, the NDSR displays a conversion to a common unit. At this time, the dietary interviewer must be able to visualize the amount reported and confirm as needed any questionable amounts using the amount estimation tools or by making reference to other familiar items or recognizable standards. For example, 1/16 of a hamburger should have a note saying, “ate only one bite” or 8 cups of popcorn should have a note saying, “ate entire box.” The dietary interviewer should ask if the entire amount described was eaten: “Were you able to finish that? or the (insert name of food)?” “¿Usted se terminó todo el/la (insert name of the food)?”

Note: Foods that do not have complete descriptive and/or complete amount information are indicated on the screen with a blue question mark to the left of the food. When the dietary interviewer has completely described a food, NDSR replaces the question mark with a green check mark to the left of each completed item. As the dietary interviewer conducts the 24-hour dietary recall, he/she provides positive reinforcement by stating thing like “you are doing a good job” as appropriate. “Usted esta haciendo un buen trabajo.” The dietary interviewer should maintain a pleasant tone of voice and avoid responding to the participant in any negative ways. If it is necessary to ask the participant to repeat what he/she said, the dietary interviewer should ask him/her to do so in a gentle way and take ownership by saying: “Sometimes it’s hard for me to hear things. Could you please tell me that again?” “A veces se me hace difícil escuchar. ¿Podría repetirme eso otra vez?”

11.7 Reviewing the Recall

During the fourth and final pass, the dietary interviewer probes for missed meals, beverages, and snacks, making sure no information was inadvertently overlooked. He/she tries to get a mental picture of the day, looking especially for time gaps of more than four hours between eating. Notes should be made to indicate skipped meals or to explain large time gaps. Notes are also used to record the absence of foods, beverages or typical condiments served with food. During the review, the dietary interviewer reads back each food and amount, asking for confirmation from the participant. For example: “Now we’ll go over what I’ve put in the computer one last time. The first thing that I have is at (insert meal name and time) when you had (insert food name).” “Ahora, vamos a revisar lo que escribí en la computadora por última vez. Lo primero que tengo en mi lista es (insert meal name and time) cuando usted comió (insert food name).”

When the dietary interviewer notices a large time gap he/she should ask: “Did you have anything to eat or drink after the last meal? Anything before your (insert time e.g., evening meal) and (before bed)?” “¿Usted comió o bebió algo después de la última comida? ¿Comió o bebió algo antes de (insert time e.g., evening meal) o (antes de ir a dormir)?” Additional foods and meals are inserted at any time. If the participant hesitates and can’t remember eating anything for a long period of time, the dietary interviewer may say: “Can you think of what you were doing (after work, at dinner/supper time, etc.)? Sometimes if we think about what we were doing, where we were or whom we were with, it helps to remember what we ate.” “¿Puede pensar que hizo (después del trabajo, durante la cena, etc)? A veces si pensamos que estábamos haciendo, dónde estábamos o con quién estábamos, nos ayuda a recordar lo que comimos.” The process continues until each meal and food has been reviewed and documented as needed in the NDSR notes.

11.8 Completing the Trailer Tab

When the 24-hour dietary interview is completed, the system presents the Trailer tab and the dietary interviewer ends the recall saying: “Next (insert name of participant), in terms of the amount of food you ate, would you say this was close to the amount that you usually eat, a lot more than you usually eat, or a lot less than you usually eat?” “¿En relación a la cantidad de alimentos que comió, usted diría que la cantidad de hoy es parecida a lo que usualmente come, fue mucho más de lo que comúnmente come, o fue mucho menos de lo que usted comúnmente come?” This question refers to the overall amount of food for the day, not the type of food. The dietary interviewer records the participant response to the last question on the Trailer tab. If the participant reports a lot more, check “considerably more than usual” or a lot less than usual, check “considerably less than usual.” In either case, NDSR requires the dietary interviewer to provide a note that briefly states why the intake was not usual. For example, a celebration meal with a lot of foods or a participant not feeling well and not eating much can result in eating a lot more or a lot less than usual. If needed the dietary interviewer can say: “What makes you say it’s (a lot more or a lot less than usual)?” “¿Que le hace decir que (lo que comió fue mucho más o mucho menos de lo usual)?”

The dietary interviewer will determine the reliability of the data. If the dietary recall is unreliable because the participant was unable to recall one or more meals or for some other reason, he/she clicks the appropriate NDSR button and adds the required NDSR Note. Dietary interviewers do not ask the participant this question, nor share their selection with him/her.

12 Conducting the Dietary Supplement Recall

The NDSR provides for an automated interview which prompts for the direct entry of the dietary supplements and their frequency of use. Collection of the dietary supplement takes place immediately following the entry of a 24-hour dietary recall and covers the same period. The in-person interview also includes the past 30 days. The dietary interviewer asks the participant about all dietary supplements and over-the-counter antacids he/she took during the recall period.

12.1 Introduction

The dietary interviewer explains the next questions are about all of the dietary supplements and over-the-counter antacids the participant took during the recall period. The dietary interviewer says: “Now I have questions about dietary supplements. As I ask each question, please list any product that you have taken over the past 24 hours / 30 days.” The dietary interviewer asks the participant if he/she has any questions. “Ahora tengo algunas preguntas acerca de suplementos dietéticos. A medida que vaya preguntándole, por favor liste los productos que usted ha consumido en las últimas 24 horas/ 30 días. ¿Tiene alguna pregunta?” In the case, the participant says he/she is not taken any supplement or vitamin, the dietary interviewer says: “Although you didn’t take any supplement over the past 24 hours / 30 days, I still need to ask each of these questions” “A pesar de que usted no consumió ningún suplemento dietético en las ultimas 24 horas/ 30 días, yo necesito que usted responda cada una de las siguientes preguntas.”

12.2 Tier 1 - Probing for Dietary Supplements

Tier 1 involves a series of ten questions to screen for use of dietary supplements and non-prescription antacids. The dietary interviewer asks about each of the dietary supplements the participant may have taken. He/she also explains that during Tier 1 he/she will record only the name of the products, later he/she will include the details for each dietary supplement. The dietary interviewer begins the recall by saying: “Now, we will record the names of the supplements you have taken over the past 24 hours / 30 days.” “Ahora, registraremos los nombres de los suplementos dietéticos que usted ha consumido durante las últimas 24 horas/ 30 días.”

The dietary interviewer proceeds by asking the participant: “Did you take any multivitamins like One-A-Day or Centrum?” “¿Usted consumió algún suplemento multivitamínico como One-A-Day o Centrum?” If the participant answers “No”, the dietary interviewer clicks “continue” and goes to the next question. In the case the participant has taken more than one multivitamin, the dietary interviewer asks for the complete name of the each product and lists each on a separate line. The dietary interviewer does this for all the questions in Tier 1.

Next, the dietary interviewer asks: “Did you take other vitamin supplements like beta-carotene, vitamin D, or folic acid?” “¿Usted consumió otro suplemento vitamínico como beta caroteno, vitamina D o ácido fólico?”

The following question is about minerals, the dietary interviewer asks: “Did you take any mineral supplement like calcium, iron or potassium?” “¿Usted consumió algún suplemento mineral, como calcio, hierro o potasio?”

Next, the dietary interviewer verifies that he/she listed all vitamins and minerals the participant has taken, by asking: “Over the past 24 hours / 30 days did you take any prescription vitamins or

minerals that you haven't already told me about?" "¿En las últimas 24 horas/ 30 días, usted consumió algún otro suplemento vitamínico o mineral que no me haya dicho?"

The next question is about fiber supplements, the dietary interviewer asks: "Did you take any fiber supplement like Metamucil or Fibercon?" "¿Usted consumió algún suplemento de fibra como Metamucil o Fibercon?"

Next, the dietary interviewer asks: "Did you take any supplement containing oils or fatty acids like Omega-3 fatty acids, fish oil or flaxseed oil?" "¿Usted consumió algún suplemento que contenía aceites o ácidos grasos como Omega-3 ácidos grasos, aceite de pescado o aceite de linaza?"

The following question is about amino acid supplements, the dietary interviewer asks: "Did you take any amino acid supplement like lysine?" "¿Usted consumió algún suplemento de aminoácidos como lisina?"

The dietary interviewer asks the participant: "Did you take any products containing one or more herbal or botanical ingredients like Echinacea, ginseng, ginkgo or St. John's Wort?" "¿Usted consumió algún suplemento que contenía uno o más ingredientes herbales o botánicos, como equinácea, ginseng, ginko o hierba de San Juan (St. John's Wort)?"

The next question records any supplement that has not been mentioned by the participant. The dietary interviewer asks: "Did you take any other dietary supplement that you haven't told me about? For example, glucosamine chondroitin, brewer's yeast, coenzyme Q-10 or garlic extract?" "¿Usted consumió algún otro suplemento dietético que no me haya dicho? Como por ejemplo, glucosamina condroitina, levadura de cerveza, coenzima Q-10 o extracto de ajo?"

The last question in tier 1 is about antacids. The dietary interviewer asks the participant: "Over the past 24 hours / 30 days did you take any over-the-counter antacids like Tums, Rolaids or Mylanta?" "¿Usted consumió algún antiácido, como Tums, Rolaids o Mylanta?" These over-the-counter antacids provide a source of calcium but many people do not perceive antacids as dietary supplements

12.3 Tier 2 - Requesting the Dietary Supplement Containers

If a participant reports using one or more products in response to Tier 1 screening questions, Tier 2 is initiated. Tier 2 requires information to be obtained from the product bottle or containers. For the in-person interview, the dietary interviewer has the containers available in a labeled bag for completing Tier 2. For the in-person interview, the dietary interviewer says: "Now we need the label information for the products that you reported." If the participant has not already removed the containers from the bag, they do so at this time. "Ahora, necesitamos la información que aparece en la etiqueta de los productos que usted reportó." For the telephone interview, the dietary interviewer needs to wait until the participant gathers the containers for the interview. The dietary interviewer asks: "Now we need the label information for the products that you reported. Do you have the containers available? I will wait while you gather them." "Ahora, necesitamos la información que aparece en la etiqueta de los productos que usted reportó. ¿Tiene los envases disponibles? Yo esperaré mientras usted los va a buscar."

12.4 Entering Complete Information of Dietary Supplements in Tier 2

NDSR Product Search window is used to locate and describe dietary supplements products. During the in-person interview the dietary interviewer reads the information of the products and records it in NDSR. A prompt assists the dietary interviewer to begin by saying: “You said that you took (insert dietary supplement name) **in the past 24 hours / 30 days**. I’ll take a look of the product label to know the complete name.” “Usted dijo que consumió (insert supplement name) **en las últimas 24 horas/ 30 días**. Voy a mirar la etiqueta del envase para saber el nombre completo del producto.”

During the telephone interview the participant has to read the information on the label of the product. The dietary interviewer says: “You said that you took (insert dietary supplement name) in the past 24 hours . Do you have the container for this product?” “Usted dijo que consumió (insert supplement name) en las últimas 24 horas. ¿Tiene el envase de este producto?”

Next, the dietary interviewer asks: “Please take a look of the product label and read the complete name.” “Por favor mire el producto y léame el nombre completo de él.” The dietary interviewer enters the name of the dietary supplement and clicks “select product” After the product is found in NDSR, the Product Detail window prompts for each available level of detail of the dietary supplement. The dietary interviewer asks: “**In the past 24 hours, how many times did you take this product?**” “**¿En las últimas 24 horas, cuántas veces usted tomó este producto?**” The dietary interviewer records the number on the box and clicks “continue.”

The next question is: “On average about how many (insert the unit, e.g. tablets, capsules, etc.) did you take each day you used the product **over the past 24 hours?**” “**¿En promedio, cuántas (insert the unit, e.g. tablets, capsules, etc) tomó cada vez que usted usó este producto en las últimas 24 horas?**”

The next question is: “For how long have you been taken this product or a similar type of product?” “¿Por cuánto tiempo usted ha estado tomando este producto o uno similar a este?”

The next question is: “Did you take this product yesterday?” “¿Ayer tomó este producto?”

The next question is an open-ended question, so the dietary interviewer needs to collect accurate and complete information from the participant. The dietary interviewer asks: “Why do you take this product?” “¿Por qué usted toma este producto?”

12.5 Tier 3 - Reviewing the Information Collected

Tier 3 is the final step during supplement data collection and includes reviewing the information collected in tier 2 to make corrections or additions. The dietary interviewer says: “Now we will review the products you have taken. Tell me if I have missed anything.” “Ahora revisaremos los productos que usted ha consumido. Dígame si no he registrado algún producto.” After reviewing the list with the participant, the dietary interviewer says: “This completes the interview. Thanks for your participation!” “Con esto hemos terminado la entrevista. ¡Muchas gracias por su participación!”

13 Administering the Dietary Behavior Questionnaire

The Dietary Behavior Questionnaire is administered after the completion of the 24-hour diet and supplement recall during the in-person interview. This questionnaire is available in English as well as in Spanish.

13.1 General Instructions

The Dietary Behavior Questionnaire is included with the other HCHS/SOL questionnaires on the computer-based data collection system. General instructions for accessing the data system and entering the responses apply to this questionnaire as well. This questionnaire comprises two items that should be administered following the first 24-hour diet and supplement recall completed during the in-person examination visit using the NDSR software. The Dietary Behavior Questionnaire is not administered after the follow-up 24-hour and supplement recall (telephone interview) completed approximately one month following the examination visit.

At the completion of the 24-hour diet and supplement recall, the interviewer says:

“I would now like to ask you about the types of food you eat and where you usually buy your food”.

“Me gustaría hacerle algunas preguntas acerca del tipo de comida que usted consume y dónde generalmente la compra.”

13.2 Question by Question Instructions

Question 1. The intent of this question is to have the participant characterize the general ethnic composition of their usual diet. This information is used with information from other questions to indicate how the individual is acculturated into the US population and adherence to traditional Hispanic/Latino life style.

The terms “Hispanic/Latino foods” are meant to refer to recipes and foods traditionally eaten in various Hispanic or Latino countries, not just in the country of origin or pertaining to the specific heritage of the participant. “American” food refers to foods typically available in the general US marketplace.

The interviewer should allow the participant to decide what the terms “mainly” and “mostly” mean to him/her, but the intent is to provide an ordinal scale of usual diet with preponderance of Hispanic/Latino foods at one end of the scale, and a preponderance of typical US or “American” foods at the other end of the scale.

Mark only one response category.

Question 2. The intent of this question is to identify the frequencies of the locations of eating for the participant and their family (household), and the frequencies that food is purchased in certain settings. Note that the frequencies are recorded as “times per week.” If the participant reports the frequency relative another time scale, such as times per month, the interviewer should help the participant translate this frequency into what it would be equal to in times per week.

The interviewer can help the participant decide what category a place of business is if he/she is having difficulty deciding, but the interviewer should not volunteer the frequency per week.

The information from this question is important in identifying specific dietary behaviors and practices that may be associated with particular patterns of dietary intake, e.g., high fat or high sodium intake, or with risk factors for subsequent disease. The participant should provide answer for each of the ten items (a-j).

Item a. Relatives' or Friends' homes. The intent is to identify eating in a home environment other than that of the participant.

Item b. Fast-food restaurants. The focus here is on the location of the eating not the ethnicity of the food, so these fast-food restaurants include Hispanic/Latino, Chinese or other restaurants serving ethnic food. These places of business include delicatessens if the food was eaten at the store.

Item c. Sit down restaurants. If there was table service, i.e., a waitress or waiter, at the place of business then the restaurant is considered a "sit-down" restaurant for the purposes of this survey. This is true even if the participant ate the food standing at a bar or table.

Item d. Buffet restaurants. The intent here is to identify commercial eating establishments where the participant serves him/herself or tells serving staff how much food he/she wants from among various choices. Many restaurants have both buffet service and table service available. The intent is to capture the frequency of buffet-type eating irrespective of other service provided at the place of business.

Item e. Pick-up-and-take-home restaurants. These include situations where the food was picked up at the place of business or if it was delivered to home by the restaurant. These places of business include delicatessens if the food was eaten at home.

Item f. Grocery stores. These include places of business where the ready-to-eat food is not the primary focus of the business, e.g. a deli counter in a large grocery store.

Item g. Cafeterias. The intent is to capture eating locations provided for convenience of employees and students. Commercial "cafeterias" where customers have a wide range of choices should usually be considered as "buffet restaurants" (item d).

Item h. Vending machines. These should be considered irrespective of what the food or beverage dispensed is. So, a participant that buys a Coke from the machine at work each day should include that frequency per week.

Item i. On-street vendors. All sidewalk or street vendors, including ice cream or taco trucks, lunch wagons, or bagel carts are included.

Item j. Other. If the participant reports other locations for usual eating that does not seem to fit in the above categories it should be included here.

14 Ending the Dietary Interview

After finishing the interview, the dietary interviewer explains to the participant she/he will have a second dietary and supplement interview by telephone. The dietary interviewer identifies the

days generally available for the telephone interview with the participant (Telephone Recall Availability Form) and provides a copy of the participant Food Amounts Booklet. The dietary interviewer explains that the telephone interview is similar to this interview and that the Food Amounts Booklet is used during the telephone interview for estimating amounts. The dietary interviewer thanks the participant and ends the dietary recall: “Thank you so much for your help. Do you have any questions for me?” “Muchísimas gracias por su ayuda. ¿Tiene alguna pregunta?” Pause, wait for and respond to questions, and proceed: “You did a great job and I really enjoyed talking with you. Remember to keep the Food Amounts Booklet in a safe place because we will use it when we do this again by telephone.” “Usted hizo un excelente trabajo, fue un placer hablar con usted. Recuerde mantener el Folleto de las cantidades de Alimentos en un lugar seguro porque lo vamos a necesitar cuando hagamos esta entrevista otra vez por teléfono.”

“Thanks. Bye.” “Muchas gracias. Adiós.”

14.1 Recording the Language Used during the Interview

After completion of the dietary and supplement recalls, the dietary interviewer determines and registers the language used during the interview. The decision is made by the dietary interviewer based on the predominant language the interviewer utilized to ask questions during the recall. There are three categories to specify the language:

- 1, Mainly Spanish
- 2, Mainly English
- 3, Combination of English and Spanish

The dietary interviewer selects one of the three options listed above and registers the information on the Record Information window on the Header Tab under Notes. The following is an example of an entry into the note field after interview completed: “1, Mainly Spanish.” Include both the number and the language so there will not be misunderstanding.

Header	Food	Trailer	Dietary Supplements
Participant ID:	C6002021		
Date of intake: (mm/dd/yyyy)	05/11/2008	Day: Sunday	
Participant name:			
Date of birth: (mm/dd/yyyy)	11/16/1949		
Gender:	Female		
Life Stage Group:	Females, age 51-70 y		
Interviewer ID:	207		
Visit number:	2		
Site ID:	2, phone		
Notes:	1, Mainly Spanish		
Database Version:	2007		

14.2 Checking and Editing Recalls

The dietary interviewer should review and edit dietary and supplement recalls as soon as possible after its administration. During editing, special attention is paid to NDSR Missing Foods, Missing Products and NDSR Notes. Foods not found in the database are indicated by NDSR as missing with red capital M. Complete detail about the missing food should be reviewed and edited to ensure that adequate information has been provided by the dietary interviewers for future resolution. The dietary interviewer must remember that another person should be able to picture the reported food, so information about the color, size, shape, ingredients and preparations should be included in the note field.

The dietary supplements not found in the database are indicated as missing dietary supplements and all ingredients listed in the Supplements Facts panel on the product containers should be included. The NDSR Note field provides on-line documentation to clarify or confirm contradictory, questionable, or unusual food items. Notes serve as communication among the dietary interviewer, the lead interviewer, and the NRC HCHS/SOL coordinator. Notes should be made to clarify unusual portion sizes, modifications to foods (e.g., not eating the crust of a piece of pizza), and eating foods without anticipated companion foods (e.g., hamburger without a bun or ketchup).

14.3 Special Considerations for Telephone Interview

Because the exact day for the telephone interview is not scheduled in advance, the Telephone Recall Availability Form is used to identify best potential days and times for the participant to be reached within the next month, beginning five days from the in-person interview. After the completion of the in-person dietary interview, the participant is asked to confirm their availability in the upcoming weeks. Notes should be made of any special plans, trips, or activities. The dietary interviewer can attempt to obtain another telephone number if the participant indicates that he/she will be at another location.

The Telephone Introduction Script for the Telephone Recall is used to start the recall and serves to remind the dietary interviewer that the participant must have the copy of the Food Amounts Booklet for use in estimating food amounts during the this recall. If the participant does not have the Food Amounts Booklet, the dietary interviewer says that he/she will send another one and will call back in a few days. The telephone interview should not be collected without the Food Amounts Booklet. The Telephone Contact Log is completed each time the dietary interviewer attempts to contact the participant. The lead interviewer reviews the Telephone Contact Logs daily or consults daily with the dietary interviewers to monitor the progress toward collection of the dietary and supplement recall for each eligible participant within the time window. He/she may need to confirm that a recall was not collected because yesterday was atypical, e.g. the participant was ill and did not eat. Sometimes it is not clear until completion of the recall that the day was atypical. The dietary interviewer should consult with the lead interviewer regarding the possible need to collect an additional recall if the intake reported represents extreme under-reporting and an additional day should be collected.

15 Data Management Procedures

Since the dietary and supplement recalls collected for HCHS/SOL should flow from the field centers to the NRC on a regular, recurring basis, NDSR projects are set up to facilitate and direct that process. Each dietary interviewer should have two NDSR projects (one for in-person

recalls, one for telephone recalls) for most weeks of data collection. All of the recalls collected by that interviewer within that week reside in those projects. Projects are backed-up on a daily basis and stored in a secure location, separate from the hard drive of the computer on which the NDSR program resides.

At the end of each week, the lead interviewer restores all projects of data for the week and combines the recalls to begin preparing them for shipment to the NRC. The backup of the original data collected remains in archive storage. After cleaning and local quality assurance tasks have been completed by the lead interviewer, a backup of these new projects with the merged data are made and be forwarded to NRC. A backup of these projects also remain in archive storage at the field center. NDSR backup files are password protected compressed files that cannot be read without first restoring them to the NDSR program.

15.1 Create the Dietary Interviewer NDSR Projects

Before beginning data collection each week, two new projects are created for each interviewer. One project contains the in-person recalls and another is for the telephone recalls (this is necessary because different NDSR preferences are specified for the supplement in-person and telephone recalls).

The requirements for the Project Information are as follows:

Project Name: *Interviewer Name* HCHS/SOL Recalls *MM/DD/YY* (e.g., Alejandra's HCHS/SOL In-person Recalls 10/01/07)

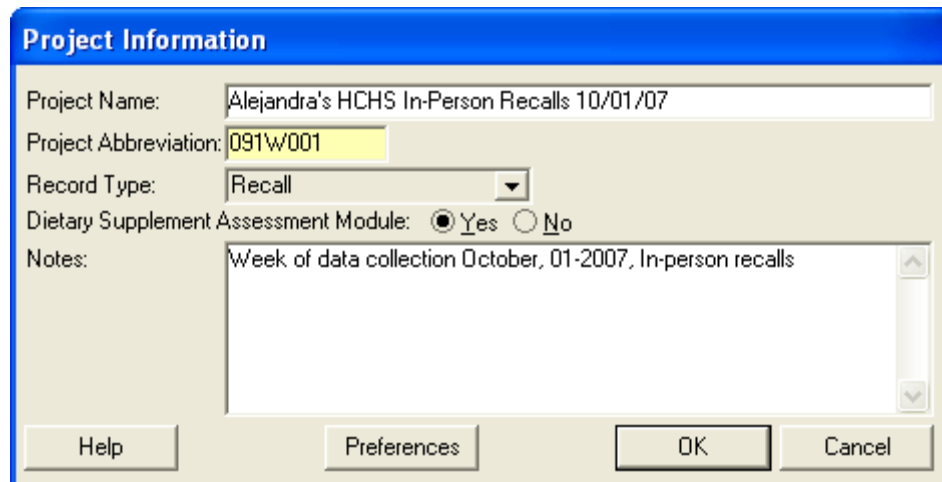
Project Abbreviation: Interviewer ID (3 digits) Data Collection Week (e.g., 091W001)

Record Type: Recall

Dietary Supplement Assessment Module: Yes

Note: Week 1 of data collection. October 1-7, 2007

See the following Project Information window:

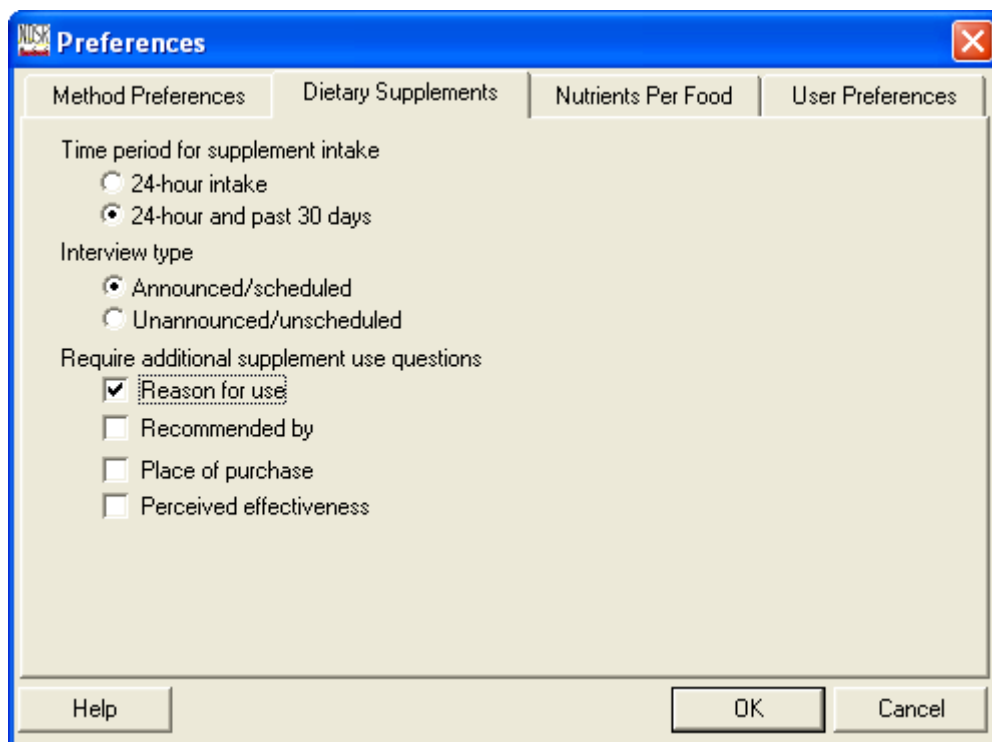


15.2 Set the Preferences

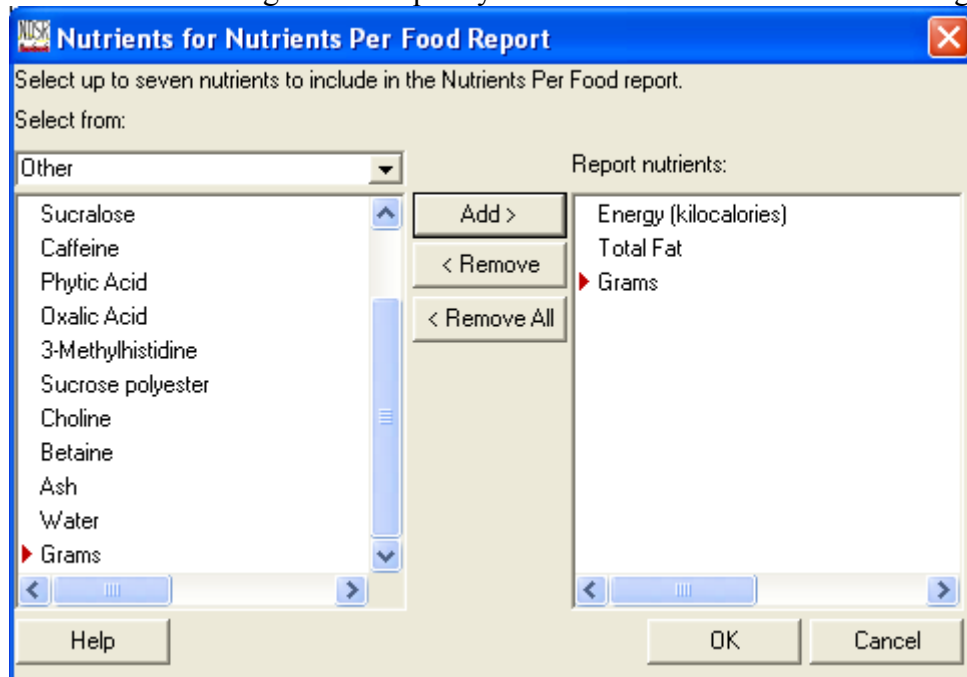
Preferences are set when setting up each project. The HCHS/SOL preferences are described below.

15.2.1 Method Preferences. Deselect the Participant name and the Site ID per the following screen shot. The dietary interviewer enters the first name only for use during the collection of the dietary and supplement recall. After local quality assurance tasks are completed and before sending the data to NRC, the name of the participant must be deleted. The first name of the participant provides a valuable cross check against the participant identification number. In addition, when conducting the telephone recall the participant's name ensures the data is being collected correspond to the right participant.

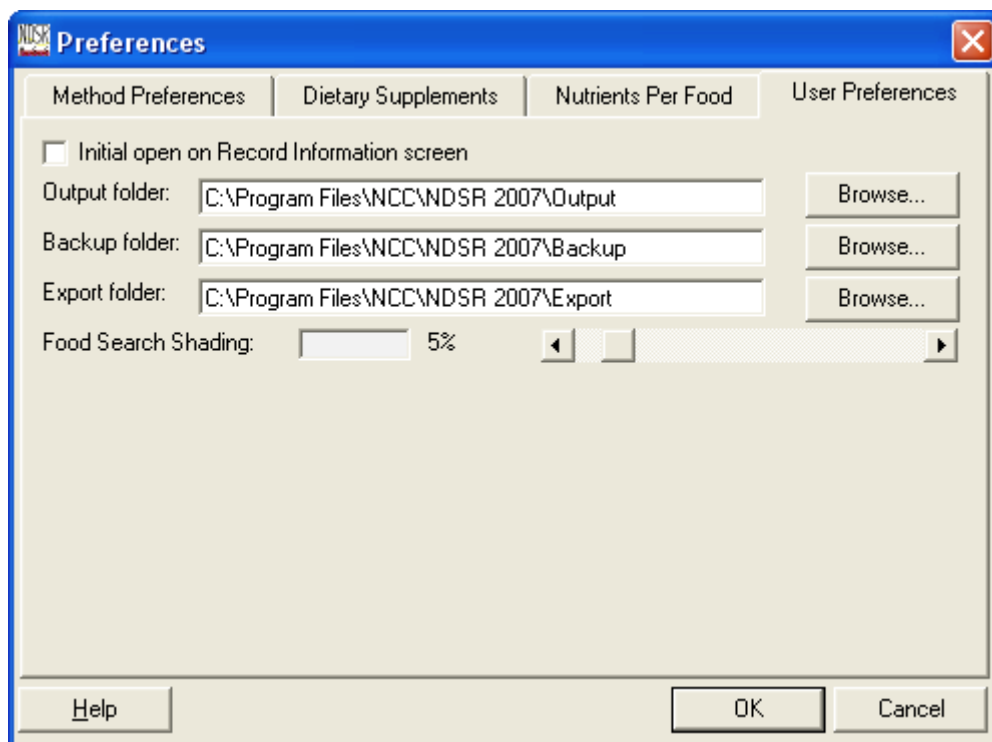
15.2.2 Dietary Supplements Preferences. For the in-person interview, the time period for supplement intake is “24-hours and the past 30 days”. For the telephone (or second interview) the “24-hour intake” option is selected. The Interview type determines the prompts for the dietary supplement interview and differs for the in-person interview and the telephone interview. Announced/scheduled is the interview type selected for the in-person interview or if the second recall is scheduled rather than unannounced. Unannounced/ unscheduled is selected for the interview type for the second or telephone recall. The additional supplement use question “Reason for use” should be selected. See the following Dietary Supplement Preferences window for the in-person interview:



15.2.3 Nutrients Per Food Preferences. The Nutrients Per Food Preferences is set to report nutrients used during the local quality assurance checks. See the following:



15.2.3 User Preferences. The User Preferences designate the location for the backup files. If the computer used to collect HCHS/SOL recalls is on a network server, it may be desirable to designate that as the backup folder location. In this example, backup files are stored in C:\Program Files\NCC\NDSR 2007\Backup. If this backup location is used, the backup files should be copied to a second secure storage location.



15.3 Create an Intake Record

Using the information obtained about the participant during the screening and recruitment process, the dietary interviewer completes the record header on the day of the visit. Because the NDSR automatically generates the date of entry, if the participant does not complete the dietary recall on the date the header is entered, the record is deleted and a new record is inserted the next time the participant is scheduled for an interview. All information set in the header preferences is required and the recall cannot continue until the header is complete. The requirements to complete the header preferences are as follows:

Participant ID: Centrally assigned by the CSCC. 8 characters beginning with the first letter of the field center (B=Bronx, C=Chicago, M=Miami, S=San Diego), a sequential number (NNNNNN) and a check digit based on the preceding sequential number.

Date of intake: mm/dd/yyyy

Date of birth: mm/dd/yyyy

Gender: Male or Female

Life Stage Group: NDSR automatically completes this field.

Interviewer ID: 3 digits designated by the CSCC.

Visit number: 1 for in-person interview; 2 for telephone interview

15.4 Backup of Dietary and Supplement Recall Data

Backup of the dietary and supplement recall data is routinely conducted by the dietary interviewer to ensure the security of the data. Ideally, a backup of the project is made after each recall is completed. At a minimum, daily backup copies of the data are made to a field-center-designated location per the NDSR preferences set. Each daily backup overwrites the backup

from the day before. At the end of the week, the backup copy of each project is turned over to the lead interviewer for local quality assurance activities. Upon completion of those activities, another backup is made and sent off to NRC for final quality assurance tasks.

15.5 Printing NDSR Reports

Three NDSR reports are printed immediately following the dietary interview. These reports serve two purposes: first, in the event that there is computer system failure, and the file is corrupt or lost, the recall can be re-entered using the NDSR Foods Report, the Record Properties Report, and the Dietary Supplements Report. The second use is for the field center quality assurance activities.

15.6 Restoring Dietary and Supplement Recall Data

The lead interviewer restores the individual dietary recall projects to a computer with NDSR program installed. Recalls from individual dietary recall projects are merged and checked prior to submission to NRC.

15.7 Creating the Lead Interviewer NDSR Projects

One project is created for the lead interviewer. The project contains all in-person and telephone recalls ready for submission to NRC.

The requirements for the Project Information for the completed recalls are as follows:

Project Name: *Field Center MM/DD/YY* (e.g., Bronx 12/07/07)

Project Abbreviation: *First letter of field center Date* (e.g., B120707)

Record Type: Recall

Dietary Supplement Assessment Module: Yes

15.8 Transmission of the Dietary and Supplement Recall Data to NRC

The completed recalls are transmitted to the NRC. The transmission of the NDSR backup files is done through a file transfer program (ftp) called QvtNet. QvtNet is a password-protected program (freeware) to be used for the following purposes:

- To send NDSR backup files (Recall projects) from the field centers to NRC on a weekly basis.
- To send NDSR backup files (User Recipe and User Product Projects) from the NRC to the field centers.

QvtNet should be installed on the computers that are used by the lead interviewer to transfer backup files to the NRC. Instructions for installation are provided (**Appendix 8**).

15.7.1 Send Backup Files to NRC. After local quality assurance activities have been completed and Missing Foods which have been submitted to NCC via the NCC website have been resolved, the lead interviewer moves the completed recalls to a single project. Next, the project is backed up to: C:\Program files\NCC\NDSR2007\Backup, and submitted to NRC via ftp (**Appendix 9**). Immediately after sending the backup file to the NRC, the interviewer sends an email to the NRC HCHS/SOL coordinator. The subject of the email should state: “(month-day-year) backup file from (name of field center)” and the message should include the following:

- Project abbreviation

- Number of recalls in a project
- NDSR version (the current version is NDSR 2007)

15.7.2 Receive Backup Files from NRC. The NRC provides backup files of User Recipes and User Products to the field centers using QvtNet. The NRC HCHS/SOL coordinator posts the backup file on the ftp site and sends an email to the lead interviewer stating that a new backup file has been posted on the ftp site. The lead interviewer accesses the site, obtains the backup file, and confirms receipt with the NRC by email (**Appendix 10**).

15.8 Archive Dietary Recall Data at the Field Center

Upon receipt of recalls at NRC, the field center is notified as to which projects can be removed from within the NDSR program and locally archived. An archived copy of all data should be kept until the study is complete. Frequent archiving keeps the number of stored recalls at a minimum, increasing the efficiency of the NDSR and the dietary interview.

15.9 Site Storage of Paper Documentation

The lead interviewer files copies of the all materials related to the dietary interview. The participant ID number is used for record retrieval in the event of questions.

15.10 Computer Failure

NDSR automatically saves all data as entered. In the event of a temporary interruption in operating NDSR, recovery likely goes unnoticed by the participant. Field centers should make provisions for long-term power failure problems. In the event of computer hardware or software problems, dietary interviewers notify the lead interviewer or the technical specialist at the field center immediately.

16 Dietary and Supplement Quality Assurance at the Field Center

The lead interviewer at each field center is responsible for ensuring the overall local quality of the dietary data collection. The dietary interviewers review the interviews, document unusual foods and amounts, and flag unreliable recalls.

On-site quality control includes two steps: Review and editing of each dietary recall by dietary interviewers within one or two days of collection, and review and editing of dietary recalls by lead interviewers within one week, with feedback provided to the respective dietary interviewer.

16.1 Daily Review of Dietary Recalls

With the collection of each recall, the dietary interviewer initiates the Dietary and Supplement Recall Checklist and upon completion of the recall, proceeds to review the data on the computer screen. Obvious errors may be corrected on the spot (e.g., entry of 10 hamburgers consumed when the dietary interviewer recalls that it was only one or entry of a cup of instant coffee powder instead of a cup of coffee prepared with instant powder). When the dietary interviewers have questions, they should discuss these with the lead interviewer to reach a consensus. Lead interviewers may consult with the NRC HCHS/SOL coordinator for more information about the NDSR database entries that would help in making a decision. The following steps are taken during the daily review by the dietary interviewers:

- Check the Header tab. The Header tab is reviewed for complete and correct information including participant ID, date of intake, interviewer ID, visit number, and the language used during the interview.
- Check the Food tab. Each food and amount should be carefully reviewed and confirmed. Unusually small or large portions are verified and any justification or rationale is documented in the Note field. Missing food information is checked for completeness.
- Check the Trailer tab. Ensure that notes provided for atypical intakes are complete.
- Check the Dietary Supplements tab. Entry of each dietary supplement and amount is carefully reviewed and confirmed. Missing product information is checked for completeness.
- Edit the dietary recall. The dietary interviewer conducts edits for each intake record within one to two days of initial data collection or after input from the lead interviewer.

16.2 Weekly Review of Dietary Recall Data

At least once per week, the lead interviewer reviews all dietary and supplement recalls collected at the field center. The lead interviewer may make or recommend changes in the dietary and supplement recalls only after discussing the proposed change(s) with the dietary interviewer. It is the responsibility of the lead interviewer to document and communicate site-specific consensus decisions to the NRC HCHS/SOL coordinator and to the dietary interviewers within his/her field center. NDSR reports to be generated for these weekly checks include the Record Properties Report; the Foods Report and the Dietary Supplement Report to address the information in the header, trailer, food, and supplement tabs for all dietary and supplement recalls collected.

16.2.1 Check the Record Properties Report. The Record Properties Report is used to check information entered in the header and trailer fields. It is important that the participant ID and date of intake are correctly entered. Anything unusual about the dietary and supplement recall should be recorded in the notes field.

16.2.2 Check the Foods Report. The Foods report should be checked for any notations requiring additional attention as well as common mistakes. The HCHS/SOL Dietary and Supplement Recall Checklist documents the common mistakes the dietary interviewer may make.

16.2.3 Check the Nutrients Per Food Report. The Nutrients Per Food report is checked for outliers which may indicate problems with selecting the wrong food or entering an incorrect amount.

16.2.4 Dietary Supplements Report

The Dietary Supplements Report is used to check the information entered about the dietary supplement. It is important to verify the product and amounts are correctly selected and the answer to the question “why taken” and notes are meaningful.

16.3 Submitting a New Food Request

If any food other than mixed dishes is not in NDSR, the lead interviewer accesses the NCC New Foods Request form on the NCC website and completes the necessary information. If a mixed dish is missing in NDSR, the dietary interviewer enters all the information for the dish on the Missing Foods window. NRC resolves the New Food Request and edits the recall with the new information. At the end of each month, the field centers will receive an updated User Recipe project to be used for conducting the recalls.

16.4 Submitting the NDSR Recalls to NRC

On a weekly basis, after quality assurance activities have been completed, the lead interviewer combines the recalls collected in one project, creates a new backup file with the following information:

- Project name: Name of the field center and the date of the week intended to submit the backup file. For example: San Diego 01/11/2008
- Project abbreviation: The first letter of the field center and the date. For example: S011108

The lead interviewer transmits the backup file to the NRC via the website. The NRC HCHS/SOL receives the backup file and confirms receipt with the lead interviewer by email.

17 Annual NDSR Updates

With each new release of NDSR, the field centers install and transition to the new database to take advantage of the more current, market reflective database and the added Hispanic foods. The timing for this transition is directed by the NRC HCHS/SOL coordinator.

NUTRITION READING CENTER

18 Introduction

The Manual of Procedures has been developed by the Nutrition Coordinating Center (NCC) at the University of Minnesota. This manual contains the procedures for the dietary data management of the Hispanic Community Health Study / Study of Latinos (HCHS/SOL) at the Nutrition Reading Center (NRC). The purpose of this manual is to document the NRC responsibilities for the dietary and supplement data collected at the four field centers (Bronx, Chicago, Miami and San Diego) including the standardization of the quality assurance review of data. All at NCC who are involved in the processing of HCHS/SOL dietary and supplement data should be familiar with the contents of this manual and know their responsibilities for the study.

19 Nutrition Reading Center Personnel and Responsibilities

19.1 John Himes, Principal Investigator and Project Director

Dr. Himes is responsible for the overall coordination of the HCHS/SOL, NRC. He chairs the Dietary and Supplement subcommittee and provides leadership for the dietary and supplement data collection. He is responsible for all communications with the University of North Carolina's Collaborative Studies Coordinating Center (CSCC) and financial officials at the University of Minnesota. He works closely with the dietary and supplement group to identify Hispanic foods and recipes to be added to the NDSR Food and Nutrient Database. Dr. Himes meets regularly with the NCC Service Center manager, HCHS/SOL project nutritionist and database scientist to review work priorities, assess work progress, and overview timelines.

19.2 Lisa Harnack, Co-Investigator

Dr. Harnack is responsible for providing guidelines for collection of dietary supplements and botanicals for the HCHS/SOL. She contributes to the interpretation of the supplement use data and provides expertise for the augmentation of the food propensity questionnaire and the identification of chief contributors to intakes of energy and selected nutrients. Dr. Harnack provides guidance to NRC staff in the resolution of issues regarding dietary supplements as identified during the quality assurance review. She is also involved in the dietary and supplement use and nutritional analysis of the HCHS/SOL dietary data.

19.3 Mary Stevens, Service Center Manager

Ms. Stevens is responsible for the general oversight of the NRC activities related to dietary and supplement recall data collection for the HCHS/SOL. She works with NRC staff to develop the data collection and quality assurance procedures. She supervises the NRC development of all related data collection forms and materials for the HCHS/SOL. She also provides oversight for the quality-control procedures specific to the study. She customizes the NDSR training to meet the needs of the HCHS/SOL protocol and leads the training and certification of the dietary interviewers. Ms. Stevens manages the efforts of and works closely with the project nutritionist to ensure the quality of the dietary and supplement data collection.

19.4 Aida Miles, Project Nutritionist

Ms. Miles is responsible for the external quality control for the dietary and supplement data collected by the dietary interviewers at each field center. She provides expertise for the identification of the Hispanic foods and recipes to be added in NDSR Food and Nutrient

Database. She maintains close communication with the HCHS/SOL field centers and is involved in the implementation of the dietary and supplement data collection and processing. She contributes to the development of the dietary and supplement data collection procedures and manuals, forms, and materials to ensure standardization of the data collection at the field centers. Ms. Miles works closely with the Service Center manager to customize the NDSR training to meet the needs of the HCHS/SOL procedures and assists in the training and certification of the dietary interviewers.

19.5 Janet Pettit, Database Scientist

Ms. Pettit leads the effort to update the NDSR to accommodate Hispanic foods. She coordinates the addition of new foods to the NDSR database, both before the study starts and in subsequent years. She contributes to the process of selecting foods for addition to the database and ensures that the new recipe information meets NCC criteria for addition to the NDSR database. She is also responsible for linking the foods included on the augmented food propensity questionnaire to NDSR foods.

19.6 Susan Seftick, Database/Quality Control Nutritionist

Ms. Seftick is responsible for the resolution of new and missing database food requests for the HCHS/SOL. She also researches food composition tables, websites, and other sources to obtain ingredient and nutrient information for foods not found and submitted for resolution by the field centers. She uses the NCC FoodCalc software to enter nutrient label and/or ingredient information for brand-name foods and for missing Hispanic foods and recipes. She provides expert guidance for the project nutritionist in conducting the NRC review of dietary and supplement recalls.

19.7 Mary Austin, Data Manager

Ms. Austin is responsible for the overall flow of data for the HCHS/SOL at NCC. She communicates with the field centers, ships all study materials and provides clerical support as needed. Ms. Austin will receive the NDSR dietary and supplement recalls from the field centers and prepare them for quality control processing. She ensures that the dietary and supplement data receive appropriate security and privacy protection during the processing at NCC. She prepares monthly data processing status reports for the CSCC and is responsible for transmission of data, NDSR backup and output files to the CSCC after NRC processing.

20 Communication and Data Transmission

The NRC personnel maintain regular and close communication internally and with both the lead interviewers at each field center and with the CSCC. Information, study materials, forms and data are transmitted on a regular and ad hoc basis.

20.1 HCHS/SOL Website

Routine updates of the Diet and Supplement Manual of Procedures and related forms will be uploaded to the HCHS/SOL website to make them available for all field centers.

20.2 Email and Telephone

The lead interviewers call or send email messages to the HCHS/SOL Project Nutritionist at NCC when he/she has questions or concerns regarding the dietary and supplement data collection. If the questions or concerns apply to all field centers, the Project Nutritionist addresses the issues

on the monthly newsletter, so all interviewers receive the same information. The monthly newsletter will be sent via email to each dietary interviewer at the field centers.

20.3 Courier and US Mail

Courier services will be used to ship study materials to the field centers. Shipments will be tracked to ensure delivery to the appropriate personnel at the field centers. Materials to be sent include the Food Amounts Booklets for the participants and amount estimation tools for the in-person interview.

20.4 NCC Website

The NCC website (www.ncc.umn.edu) is used by the field centers to report a missing commercial, packaged and any food other than prepared dishes. The New Food Request Form is completed with the information about the food or beverage and submitted to NCC for resolution. The New Food Request Form is filled out with the following information:

- Client Name: Name of the lead interviewer
- Client Number: 10801
- Institution: Name of the field center (Bronx, Chicago, Miami or San Diego)
- E-mail: sefti001@umn.edu
- Phone Number: Phone number of the lead interviewer

20.5 NRC FTP Site

An ftp site has been established at the NRC using QvtNet software to transmit the NDSR data from the field centers to the NRC. QvtNet is a password-protected program (freeware) to be used for these transmissions. QvtNet is installed on computers at the field centers and the CSCC and is supported by computer staff each institution. Information technologists at the University of Minnesota support the use of QvtNet by NRC staff and are available to consult with the other institutions participating in HCHS/SOL.

20.6 Meetings at NRC

NRC personnel meet at least once a week to discuss the materials that are developed and improved for the data collection, the standardization of procedures, and the identification of challenges before the study starts. They also discuss timelines and any issues related to the NDSR software and database. During active data collection, weekly meetings are held to discuss the status of processing of incoming dietary and supplement recalls and to note any issues that need to be communicated to the field sites or to the CSCC.

21 Forms and Databases Utilized at the NRC

A number of forms are used to record information and to track data, monitor progress, and to ensure the overall quality and security of the dietary and supplement data received from the field centers. Information is recorded electronically in a Dietary Recall database for easy retrieval and reporting purposes.

21.1 HCHS/SOL Dietary and Supplement Recall Interview Assessment Form

This form (**Appendix 11**) is completed for the baseline and final recalls and is used to evaluate each interviewer during the certification process. It also is used during the field site visits when

interviews are observed. Copies of the completed Interview Assessment Forms are maintained on file by interviewer at NRC for the duration of the study.

21.2 HCHS/SOL Dietary Inquiry Form

The HCHS/SOL Dietary Inquiry Form (**Appendix 12**) is used by the NRC personnel during routine review of the dietary and supplement recalls during data collection. Questionable items found in the recalls are recorded on this form which is sent to the field center as email attachments. The lead interviewer at each site follows up in obtaining the needed information and returns the completed form via email to the NRC for inclusion in the dietary and supplement data as warranted.

21.3 HCHS/SOL Field Center Visit Checklist

This form (**Appendix 13**) is completed by the NRC personnel at the time of the field center visit. It provides information about the use of the materials and forms as well as the adherence to overall dietary and supplement procedures as noted in the Field Center Manual of Procedures.

21.4 HCHS/SOL Recall Database

The HCHS/SOL Recall Database includes information about the dietary and supplement recalls received at NRC and is used to track the incoming recalls and to generate the monthly status report for the CSCC. The information provided in the HCHS/SOL Recall Database includes: participant ID, date of intake, visit number, interviewer ID, and number of inquiries, number of missing foods and missing dietary supplement products for each dietary and supplement recall collected.

21.5 HCHS/SOL Monthly Processing Status Report

Every month the Data Manager generates a report to be sent to the CSCC. The purpose of this report is to inform the CSCC about NRC activities for the study. This report includes a summary of the information that is kept in the Recall Database, including the number of recalls received at NRC and the status of NRC processing of dietary and supplement recall data.

21.6 NCC Service Center Quality Assurance Reports

A number of customized NDSR reports are used to facilitate the review of the recalls received at NRC in a standardized manner, and to allow NRC staff to generate dietary inquiries to detect possible data-entry errors, missing foods and missing dietary supplements. These reports include:

21.6.1 Nutrient Outlier Report. The Nutrient Outlier Report lists all nutrients that exceed database established maximum values. Recalls are subsequently checked for amount or food selection accuracy. This report is generated for all recalls within a project.

21.6.2 Food Outlier Report. The Food Outlier Report lists all foods that exceed database established maximum values. Recalls are subsequently checked for accuracy of amount and/or food selection. This report is generated for all recalls within a project.

21.6.3 Quick List Report. The Quick List Report is printed and reviewed for diet and supplement recalls identified as part of the 10% quality assurance sample. The Quick List Report is compared to the Food Report to ensure that the foods listed during the first pass of the

interview are accounted for either by food selection or notes that describe why a food reported on the Quick List has not been entered.

21.6.4 Missing Food Report. The Missing Food Report identifies all recalls with foods flagged by NDSR as missing during the diet and supplement interview. The recalls submitted to the NRC may have missing mixed dishes that cannot be found in NDSR. This report will be used to identify frequently reported missing foods which should be considered for inclusion in the upcoming NDSR release.

21.6.5 Missing Product Report. The Missing Product Report identifies all recalls with dietary supplement products flagged by NDSR as missing during the diet and supplement interview.

21.6.6 Food Notes Report. The Food Notes Report includes all notes reported on foods. Dietary interviewers use this field to document data entry decisions, record additional information and/or questionable items. The information in the note field may be useful in identification of common data entry questions and/or items that require further clarification for dietary interviewers. Information in the food note is reviewed and inquiries are sent or the data entry is adjusted as warranted.

21.6.6 Meal Notes Report. The Meal Notes Report includes all notes reported on the meal information window. Dietary interviewers use this field to document additional information reported by the participant such as the name specific name of the restaurant, other meal location or the eating occasion. Information in the meal note is reviewed used as warranted.

21.7 HCHS/SOL New Food Request Form

The NCC New Food Request Form (**Appendix 4**) is used to submit a missing commercial food to NCC for resolution. The form is available on-line at the NCC website which can be accessed from within the NDSR program or at www.ncc.umn.edu. NCC will resolve the missing commercial food using the information provided on this form.

22 Annual Updates of the NDSR Program

Every year, NCC releases a new version of the NDSR software including a new version of the NDSR food and nutrient database to more currently reflect the food marketplace. NCC makes adjustments and changes to improve the NDSR database, e.g. new foods and mixed dishes will be added, obsolete foods are deactivated, foods are reformulated and nutrient values are updated with improved information. Each year, with the release of the updated NDSR database, NCC provides the new version of the NDSR software to the field centers and communicate to the field centers as to the exact day that the new version should be installed and used for dietary and supplement collection.

23 NRC Training, Monitoring and Continuing Education of Field Staff

Central training of the dietary interviewers ensures the standardization and quality of the dietary and supplement data collection at the four field centers. NRC staff develops and maintain the dietary and supplement training materials for the field centers. Prior to the start of the study, NRC staff trains all dietary interviewers at a central training workshop. All dietary interviewers

must be certified by NRC staff following the training. Ad hoc training workshops for new field staff are conducted as needed by NRC staff. With each new release of the NDSR software, the HCHS/SOL training materials are updated to reflect any changes in the new version.

23.1 NRC Training and Certification Process

The training and certification includes the all aspects of the dietary and supplement interview; using the multiple-pass approach, dietary interview techniques, the use of the amount-estimation tools, use of scripts and interview prompts, and reviewing, making edits and corrections after each recall. It is intended that the dietary interviewers complete their baseline recall at the end of the last day of training. This allows the dietary interviewer to use all dietary and supplement materials to simulate an actual interview in a setting with the trainer. If some dietary interviewers do not complete the baseline certification recall the last day of training, they will schedule the baseline recall with an NRC trainer for another day and this will be conducted by telephone.

23.2 Evaluating the Certification Baseline Recall

Before the baseline recall is conducted, the NRC trainer prepares the HCHS/SOL Dietary and Supplement Recall Interview Assessment Form with the appropriate information for the dietary interviewer. A copy of the Baseline Certification Script and the Participant Food Amounts Booklet are ready to be used during the interview. To standardize the certification process, he NRC trainer uses the same baseline and final scripts for all dietary interviewers. The scripts are available in English as well as in Spanish. The Recall Interview Assessment Form is used to assess the overall skills of the dietary interviewer in using the NDSR software and database, interviewing techniques, use of the amount estimation tools, and establishing rapport with the participant. After the completion of the baseline recall, the NRC trainer reviews the interview with the dietary interviewer and provide feedback about interviewing, finding foods and dietary supplements in NDSR, and adherence to the HCHS/SOL protocols. This is also an opportunity to answer any additional questions the interviewer may have. Certification records for dietary interviewers will remain on file at NRC for the duration of the study.

23.3 Management and Assessment of the Certification Recalls

Backup files containing at least ten practice recalls are submitted via the ftp site. Email notification is sent to the NRC data manager who retrieves the NDSR backup file from the ftp site. The backup file is restored to NDSR and receipt is confirmed via email to the lead interviewer and the dietary interviewer. Next, the final recall session is scheduled with the dietary interviewer. After restoring the backup file with the ten recalls, the data manager prints the Quick List, Record Properties Report, Foods Report, and the Dietary Supplements Report. She will also generate the Quality Assurance Reports as listed above. Each report is reviewed and evaluated by the NRC trainer and the project nutritionist. The NRC staff provides feedback in the form of written comments, as needed, on each of the above mentioned reports and discusses issues as needed before proceeding to the final recall with the dietary interviewer. Once the dietary interviewers are certified the lead interviewer and the CSCC are notified. An ad hoc report is provided to the CSCC with the names and interviewer identification numbers for interviewers as each group is trained and certified.

23.4 Conducting the Final Certification Recall

In preparation for the final recall the NRC trainer gathers the materials including the HCHS/SOL Recall Interview Assessment Form, the Final Certification Script, and the Participant Food Amounts Booklet. Before the dietary interviewer starts the interview, the NRC trainer provides feedback about the ten practice recalls and responds to any questions from the dietary interviewer. After completing the final interview, the NRC trainer highlights the important issues identified during the interview, provides recommendations for improvement, as needed, and reinforces the good practices noted.

23.5 Monitoring

NRC personnel visit each field center during the first year of the data collection to evaluate adherence to the HCHS/SOL Field Center Manual of Procedures, observe dietary and supplement interviews, evaluate local quality control procedures, understand field center challenges, check for confidentiality of dietary and supplement data and respond to questions about overall NDSR data management and collection issues. Following the visit to the field center, the NRC staff will submit a detailed report to the CSCC about the progress and issues noted during the site visit. The HCHS/SOL Field Center Checklist (**Appendix 13**) is used to document dietary and supplement data collection procedures.

23.6 Continuing Education

At all times during the HCHS/SOL, it is imperative that the dietary and lead interviewer practice the skills learned at training and use the NDSR program on a regular basis. During the study, the NRC will have an opportunity to provide information about general issues that will be useful for all dietary and lead interviewers. Specific problems identified during the review of recalls will be communicated directly to the dietary and lead interviewers so that they can learn from their experiences.

23.6.1 Additional Practice Diet and Supplement Recalls. Prior to the start of the full-scale study each dietary interviewer is required to collect one recall per day he/she is working for the diet and supplement section of the HCHS/SOL and submit at the end of each week the recalls via the ftp site during the time period before the startup of data collection.

23.6.2 Monthly Newsletter. General issues noted during the review of recalls and during site visits are documented and communicated to the dietary interviewers on an ongoing basis in the form of a newsletter. This is sent monthly via email to all the field centers.

24 Preparing Materials for the Field Centers

NRC staff has developed materials to be used by the dietary interviewers and participants to ensure the standardization and quality of the diet and supplement data collection at the four field centers.

24.1 Dietary Interviewer Training Manual

The Training Manual has been generated as a guide to be used during diet and supplement workshop. Each dietary interviewer receives a Training Manual that includes information regarding the use of NDSR, procedures for conducting the diet and supplement recall, the use of interview materials, practice with NDSR, and quality assurance of the interviews. The Training Manual should be available at the field center to be consulted by the dietary interviewer when necessary.

24.2 Dietary Interview Notebook

A Dietary Interview Notebook is provided to each dietary interviewer. Pages of the notebook are protected in plastic so that they may be used with each participant. Included in the notebook are the Participant Food Amounts Booklet, pictures of foods from the Hispanic Food Glossary, and calendar pages for discussing the upcoming telephone recall. The Interview Notebook is used during the in-person interview and should be kept at the field center.

24.3 Food Amounts Booklet

The Food Amounts Booklet is used during the in-person and telephone dietary and supplement recalls. This booklet was developed for use in the Dietary Intervention Study in Children in 1993 and has been modified by the NRC staff for the HCHS/SOL. The graphics are converted to volume or weight amounts to be entered into NDSR amounts. Each interviewer receives a copy of the booklet with labels on the pictures and a conversion chart to facilitate the amount data entry. On a quarterly basis, the NRC provides copies of the Participant Food Amounts Booklet to each field center for distribution to the participants.

24.4 Food Models

The NRC has provided each field center with two sets of 3-dimensional food models to be used during the in-person interview to aid in estimating amounts and to educate the participant in the use of the Food Amounts Booklet. The household food models have been selected to reflect the 2-dimensional pictures of the Food Amounts Booklet and include cups, bowls, glasses and replica foods for items that are not easily measured using cubic volumes or dimensions. A small container with a cover is provided by the NRC. This is to be filled with loose dried beans which are purchased locally.

24.4.1 Labeling of Food Models. Each 3-dimensional food model is measured and labeled with the same markings as the 2-dimensional pictures. The amount to enter in NDSR is marked on the bottom of each model. These markings are intended to be used only by the dietary interviewer.

24.4.2 Additional Food Model Sets. Each field center has been provided with two sets of food models and an inventory list to keep track of the sets. If any items are damaged throughout the study, the lead interviewer contacts the NRC staff for replacement. No other food models or measuring devices will be used to conduct the diet and supplement recalls.

24.5 Hispanic Food Glossary

A Hispanic Food Glossary has been developed for the HCHS/SOL to guide and facilitate the process of data collection for the dietary interviewers. The glossary lists 208 foods including many fruits, vegetables, and Hispanic dishes. The Hispanic Food Glossary is not intended to be an exhaustive listing of Hispanic foods. Rather, the intent is to have a tool that will help the dietary interviewers to consistently choose the correct food when entering dietary data into the NDSR. The glossary should be reviewed frequently by the dietary interviewers so the dietary interviewers will become familiar with the Hispanic foods, NDSR data entry, and uncommon names of foods. There are two types of listing available for the interviewers: the PDF file that is organized by alphabetical order (Spanish), does not contain accent marks, and includes hyperlinks. The purpose of this glossary is to be a searchable document available for the dietary

interviewer. The other type of glossary is organized by alphabetical order in Spanish with accent marks. A hard copy of the glossary is provided to each dietary interviewer during training.

24 Nutrition Reading Center Procedures for Dietary and Supplement Data

24.1 Receipt of NDSR Backup Files at NRC

On a weekly basis, after quality control is conducted at each field center, the lead interviewers send the backup files of completed records to NRC via the ftp site. If no backup files are received from a field center, NRC personnel contacts the lead interviewer regarding the status of the expected dietary and supplement recalls shipment to identify any possible problems that have been encountered with completing and submitting the recalls.

24.1.1 Restoring Data Sent from the Field Centers. The backup files are downloaded from the ftp site and restored to NDSR. The NRC data manager generates the NDSR Record Listing and confirms receipt.

24.1.2 Confirmation of the Data Received at NRC. The NRC data manager sends an email confirming receipt with the field center. The email contains information regarding the name of the project, the date of receipt and the number of records included in the project.

24.2 Quality Assurance and Editing of Dietary and Supplement Recalls

NRC quality assurance reports are generated for incoming recalls. Reports identify recalls that need further examination, may require editing and/or further information from the field center. A random sample of 10% of recalls is identified for a detailed review. During the quality assurance review, the NRC generates Dietary Inquiries for the field center about questioned items. Therefore, dietary interviewers learn from their own experience to improve the quality of future dietary and supplement data collected. Missing foods and missing dietary supplements products are resolved and recalls are edited as needed. All edits made to the diet and supplement recalls are documented at NRC with the date and identification number of the person who made the change.

24.2.1 Missing Foods and Dietary Supplement Products. Foods and dietary supplements may be identified as missing during the diet and supplement recall. These missing items include new brand name food products that are submitted by the lead interviewer using the NCC website to transfer information required for resolution. NCC generate a resolution for these missing foods and the recall is edited accordingly at the NRC. Hispanic foods, mixed dishes and dietary supplement products reported and not included in the database are flagged by the NDSR program during data entry and resolved during the quality assurance review at the NRC. Editing of these missing items is completed at the NRC and the information is available for all field centers at the end of each month for use potential use in future recalls.

24.2.2 Resolving New Brand Name Foods. NCC resolves each new-food request using nutrient and ingredient information provided by the field centers and matching to foods in NDSR. Primary nutrients for comparison include: calories, protein, fat, carbohydrate and sodium. Fortification nutrients are also matched. When complete nutrient and ingredient information is available, new-food requests are resolved using a calculation. In this calculation, amounts of the major ingredients are adjusted so that the nutrient values of the ingredients best

match the nutrient information and fall within NCC established nutrient tolerances. When complete nutrient and ingredient information is not provided, new-food requests are resolved using a variety of resources, including the most current (unreleased) database version, manufacturer information, and previously resolved requests. When information is not available, NCC judgment is used to resolve the missing item.

24.2.3 Resolving New Hispanic Foods. Before the study starts, the NRC will provide the field centers with User Recipes for the most common Hispanic dishes not in NDSR 2007. Each month of the study when new dishes are reported, additional User Recipes will be provided. The recipes not in NDSR 2007 will be submitted for possible inclusion in NDSR 2008. NRC staff use a variety of Hispanic/Latino cook books located at NCC serve as primary sources of information to generate user recipes. The lead interviewers may be consulted prior to final selection of a recipe to determine if the one selected at the NRC is the most representative for the food in question. Since a recipe may widely vary in preparation, ingredients and preferences, NCC uses the most representative recipe to generate the user recipe. However, this rule may not apply to all cases because there are Hispanic dishes that have the same name in two countries or regions but the preparation and ingredients are different in this case, the country name would be included in the recipe name to differentiate between these two types of foods.

24.2.4 Missing Dietary Supplement Products. Missing dietary supplement are resolved at the NRC by checking information entered by the dietary interviewer against product information sources whenever possible. NRC staff save the Missing Product as a DSAM User Product, verify the information by checking against available resources including dietary supplement product websites. The diet and supplement recall is edited to include the validated User Product. If the information entered for a product cannot be validated by the NRC, information collected during the recall is used; however this product is used only in the resolution of the dietary supplement recall for this particular participant and is not included in the NDSR User Product backup file for the other field centers because it has not been validated.

24.2.5 Data-Entry Rules. NCC has developed rules about food entry which are essential to maintain consistency in data entry among the dietary interviewers over time. These rules are used when a participant is no longer available for clarification, or after all probing during the dietary recall fails to elicit the required information. Since NRC data-entry rules may not cover every data-entry situation, NRC staff will regularly provide updates of the data-entry rules for the field centers.

24.3 Providing Missing Food and Missing Product Resolutions to the Field Centers
Each month NDSR backup files of User Recipe projects with new food resolution and Hispanic Recipes and User Product projects with new dietary supplement products are posted on the ftp site to make them available for all field centers.

24.4 Archive of the Final Dietary and Supplement Data Files at NRC

Electronic copies of the final dietary and supplement recalls are stored in a computer with access only for the personnel working for the HCHS/SOL at NRC. Backup copies are stored on a secure server at the University of Minnesota, Division of Epidemiology and Community Health. All printed reports and forms are kept in folders at the NRC in a locked file cabinet until such time that the CSCC advises the NRC of the disposition of these files.

25 Transmission of the Final Dietary and Supplement Data Files to the CSCC

Each month NRC submits a backup file and an output file with the final dietary and supplement data to the CSCC via the ftp. The Status Report informs the CSCC of the number of recalls that are in process either at NRC. Those recalls are not sent to the CSCC until they are completed. Therefore, any outstanding recalls are sent with a subsequent batch, usually at the end of the following month.

Appendices



Appendix 1: HCHS/SOL Dietary and Supplement Recall Checklist

Participant ID: _____

In-Person Recall (check): _____

Telephone Recall (check): _____

Dietary Interviewer	Complete review on the day the recall is collected	Check (✓)	Date	ID**
Header tab reviewed (see instructions on the back of checklist).				
Food tab reviewed.				
Trailer tab reviewed.				
Dietary Supplement tab reviewed.				
Missing foods and notes edited. Questions noted.*				
Unusual portions verified and documented. Questions noted.*				
Daily backup copy made and copied to the site designated location.				
Reports are printed				
Dietary and Supplement Recall Checklist forwarded to the lead interviewer				
Lead Interviewer	Completes review within 1 week of collection			
NDSR Reports printed. Lead Interviewer notes made on hard copy reports.				
Record Properties Report reviewed. Participant ID and date of intake confirmed. Documentation for atypical or unreliable recall is checked.				
Foods Report reviewed. Check (✓) each food as reviewed.				
Nutrients Per Food Report reviewed. Documentation for unusual foods/amounts and notes is checked.				
Missing Foods submitted through NCC website.*				
Dietary Supplements Report reviewed. Check (✓) each supplement as reviewed. NDSR Notes are checked.				
Sign off (bottom right hand corner) on each report and attach to this form.				
Dietary Interviewer	Complete edits within 1 week of data collection			
Edits made as noted from the lead interviewer.*				
Backup copy made and copied to the site designated storage location.				
Lead Interviewer	Prepares for submission to NCC			
Check edits.				
Move the completed record to designated project.				
NDSR Backup file submitted to NCC through the QvtNet Program				

*Use NA if not applicable.

** Dietary or Lead interviewer identification number (3 digits)



Instructions for HCHS/SOL Dietary and Supplement Recall Checklist

Note: Remember to check (✓) as you verify each item checked.

Header Tab (Record Properties Report) (For more information see MOP Section 11.17.1)

✓ Check the following:

- ☐ Participant ID is correctly entered as four digits as assigned: ***First letter of the field center following by a sequential number and a check digit. Participant ID assigned by the CC.***
- ☐ Date of Intake is correctly entered as the day before the recall is conducted.
- ☐ Interviewer ID is correctly entered as: **3 digits given at the diet and supplement training.**
- ☐ Visit Number is correctly entered as: **1 (in-person interview) or 2 (telephone interview).**
- ☐ Language of the interview is correctly entered. **Include number and language separated by a comma.**

Food Tab (Foods Report)

- ☐ **READ** each food and beverage name aloud to yourself so that you don't start looking over the information without actually seeing it.
- ☐ Read each food amount aloud and **VISUALIZE** what was entered.
- ☐ Read **notes** for completeness and accuracy.
- ☐ Check Servings Made and Servings Eaten for Assembled Foods.
- ☐ Use the study approved amount estimation tools and a ruler to "re-create" the portions.
- ☐ Study approved amount estimation tools used correctly for all foods or beverages.
- ☐ Portion sizes of meat, poultry, fish and cheese are described appropriately and are reasonable.
- ☐ Unusually small or large portions verified and rationale documented.
- ☐ Missing foods include a complete description of the food and amount eaten.

Trailer Tab (Record Properties Report)

- ☐ Read notes for completeness and accuracy.

Nutrients Per Food Report

- ☐ Check the gram weight for unusual amounts. Reference points include:
- ☐ 28g cheese = 1 oz; 454g steak = 1 pound; 250 g chili = 1 cup
- ☐ Check individual food items that are >400 kcal, >25 grams of fat, or >500 grams.

Dietary Supplement Tab

- ☐ Check the Dietary Supplement Report.
- ☐ Read notes for completeness and accuracy.
- ☐ Check the missing products for entire description of the product and list of ingredients.
- ☐ Verify the days, times, and amounts the product has been taken.
- ☐ Read and check the "Why taken" field for a meaningful answer.



Appendix 2: HCHS/SOL Telephone Recall Availability Form

(English Version)

Participant Name: _____

Participant ID: _____

HCHS/SOL Telephone Recall Availability Form

Instructions: In the space below, indicate the best days and times you would be available to receive a call for the 24-hour dietary recall. Because this call is unannounced, it is necessary that you list multiple days and times. This call may take 30-45 minutes of your time to complete. The dietary interviewer can call you from ____ am to ____ pm. Please keep your Food Amounts Booklet near your telephone for use during the telephone interview. A second copy of the Food Amounts Booklet can be provided to keep at work if you can be interviewed at work as well as at home.

Days	Best times of day to call	Check best times	Phone number (Include area code)
Monday	Morning (8AM-12N)		Day: _____
	Mid day (12N-5PM)		Evening: _____
	Evening (5PM-8PM)		Other: _____
Tuesday	Morning (8AM-12N)		Day: _____
	Mid day (12N-5PM)		Evening: _____
	Evening (5PM-8PM)		Other: _____
Wednesday	Morning (8AM-12N)		Day: _____
	Mid day (12N-5PM)		Evening: _____
	Evening (5PM-8PM)		Other: _____
Thursday	Morning (8AM-12N)		Day: _____
	Mid day (12N-5PM)		Evening: _____
	Evening (5PM-8PM)		Other: _____
Friday	Morning (8AM-12N)		Day: _____
	Mid day (12N-5PM)		Evening: _____
	Evening (5PM-8PM)		Other: _____
Saturday	Morning (8AM-12N)		Day: _____
	Mid day (12N-5PM)		Evening: _____
	Evening (5PM-8PM)		Other: _____
Sunday	Morning (8AM-12N)		Day: _____
	Mid day (12N-5PM)		Evening: _____
	Evening (5PM-8PM)		Other: _____

Please don't call before _____ am or after _____ pm.



Participant Name: _____
Participant ID: _____

(Spanish Version)

HCHS/SOL Forma de Disponibilidad de Horario para el Recordatorio Telefónico

Instrucciones: Por favor, indique los mejores días y horas en los que usted estaría disponible para recibir un llamado para completar el recordatorio de 24-horas. Debido a que este llamado no es anunciado, es necesario que usted liste múltiples días y horas. Este llamado puede tomar unos 30-45 minutos de su tiempo en ser completado. El entrevistador puede llamarlo desde la(s) ____ a.m. hasta la(s) ____ p.m. Por favor mantenga el Folleto de las Cantidades de los Alimentos cerca de su teléfono para usarlo durante la entrevista telefónica. Usted puede recibir una segunda copia del Folleto de las Cantidades de los Alimentos para que lo mantenga en su trabajo, en el caso que usted sea entrevistado en su lugar de trabajo así como también en su casa.

Días	Mejores horarios para llamar	Seleccione Horarios	Numero telefónico (Incluya código de área)
Lunes	Mañana (8AM-12N)		Día: _____
	Mediodía (12N-5PM)		Tarde: _____
	Tarde (5PM-8PM)		Otro: _____
Martes	Mañana (8AM-12N)		Día: _____
	Mediodía (12N-5PM)		Tarde: _____
	Tarde (5PM-8PM)		Otro: _____
Miércoles	Mañana (8AM-12N)		Día: _____
	Mediodía (12N-5PM)		Tarde: _____
	Tarde (5PM-8PM)		Otro: _____
Jueves	Mañana (8AM-12N)		Día: _____
	Mediodía (12N-5PM)		Tarde: _____
	Tarde (5PM-8PM)		Otro: _____
Viernes	Mañana (8AM-12N)		Día: _____
	Mediodía (12N-5PM)		Tarde: _____
	Tarde (5PM-8PM)		Otro: _____
Sábado	Mañana (8AM-12N)		Día: _____
	Mediodía (12N-5PM)		Tarde: _____
	Tarde (5PM-8PM)		Otro: _____
Domingo	Mañana (8AM-12N)		Día: _____
	Mediodía (12N-5PM)		Tarde: _____
	Tarde (5PM-8PM)		Otro: _____

Por favor no llame antes de _____ a.m. o después de _____ p.m.



Appendix 3: HCHS/SOL Telephone Contact Log

Primary Day(s) to Call: M T W Th F Sa Su

Collect Recalls from:

Primary Time(s) to Call: am (8a-12p) mid day (12p-5p) pm (5p-8p)

Participant ID:

Primary Phone Number: _____

Line #	Date (mm/dd)	Time (am/pm)	Comments	Phone Contact Code	End Time (am/pm)	Interviewer ID
1						
2						
3			Alternative Phone Number:			
4						
5						
6						
7						
8						
9						
10						

PENDING telephone contact codes

- | | |
|------------------------------|--------------------------------------|
| 1- No answer/message left | 5- Call back another day |
| 2- No answer/no message left | 6- Participant refusal/wants to drop |
| 3- Busy signal | 7- Needs new Food Amount Booklet |
| 4- Call back later today | 8- Other (add a note) |

FINAL telephone contact codes

- 9- Recall completed (record end time for recall)
10- Other (add a note)

Appendix 4: New Food Request Form

Fields marked with an asterisk (*) are required.

Client Name*		
Client Number*		
Institution		
E-mail*		Resolution returned to this address.
Phone Number		
NDSR Version*		
New Food Name*		
Web Page		
Amount Consumed		
Serving Size		from label
Weight per Serving		from label
Calories		kcal
Fat		g
Saturated Fat		g
Trans Fat		g
Cholesterol		mg
Sodium		mg
Potassium		mg
Carbohydrate		g
Dietary Fiber		g
Sugars		g
Protein		g
Ingredients		
Vitamin A		%DV IU
Vitamin C		%DV mg

Calcium		%DV		mg
Iron		%DV		mg
Vitamin D		%DV		mcg
Vitamin E		%DV		mg
Vitamin K		%DV		mcg
Thiamin		%DV		mg
Riboflavin		%DV		mg
Niacin		%DV		mg
Vitamin B6		%DV		mg
Folic Acid		%DV		mcg
Vitamin B12		%DV		mcg
Pantothenic Acid		%DV		mg
Phosphorus		%DV		mg
Magnesium		%DV		mg
Zinc		%DV		mg
Selenium		%DV		mcg
Manganese		%DV		mg
Copper		%DV		mg
Other Information				

Appendix 5: Record Properties Report

Record Properties Report

Nutrition Data System for Research 2007

Project Abbreviation: 09W001

Participant ID: TBD

Date of intake: 05/14/2007

Project Name: Alejandra's HCHS In-Person Recalls 10/01/07

Project Abbreviation: 09W001

Record Type: Recall

Data collected in NCC database version: 2007

Data collected in software version: 2007

Dietary Supplement Assessment Module: Yes

NHANES Dietary Supplement Database Version:2003-2004

Participant ID: TBD

Participant Name:

Date of Birth: 03/01/1954

Gender: Male

Life Stage Group: Males, age 51-70 y

Date of Intake: 05/14/2007

Day of Intake: Monday

Date of Entry: 05/15/2007

Interviewer ID: TBD

Visit Number: TBE

Site ID: TBD

Notes: Week 1 of data collection October 1-7-2007. In-person recalls TBD: To be determined

Amount of Intake Was: Usual

Information Was: Reliable

Notes:

Appendix 6: Food Report

Foods Report

Nutrition Data System for Research 2007

Project Abbreviation: 09W001

Participant ID: TBD

Date of Intake: 05/14/2007

✓ 8:00a BREAKFAST HOME

- ✓ 1. orange, fresh

1 medium - 2 5/8" diameter

- ✓ 2. milk, 1% fat or lowfat

1 1/2 CP

- ✓ 3. Poptart, other toaster pastry, regular, regular

1 each

✓ 10:30a SNACK WORK

- ✓ 4. chips - snack type, Doritos Tortilla Chips - Salsa Verde!

1 bag - single serving - each 1 OZ (1.00 OZ)

- ✓ 5. cola, diet, with caffeine, sweetened with aspartame

1 can - each 12 FO (12.00 FO)

✓ 1:00p LUNCH WORK

- ✓ 6. burrito, bean (meatless), with cheese

1 each - 6" long, 8" diameter tortilla folded

Food Variables:

6.v1 I: tortilla, white flour, commercial type - plain

6.v2 I: refried beans - unknown

6.v3 I: cheese - unknown

- ✓ 7. banana, fresh or ripe

1/2 small - 6" to 6 7/8" long (0.43 medium - 7" to 7 7/8" long)

- ✓ 8. water - tap

8 FO, without ice (1.00 CP)

✓ 4:30p SNACK WORK

- ✓ 9. corn flakes, presweetened (frosted)

Foods Report

Nutrition Data System for Research 2007

Project Abbreviation: 09W001

Participant ID: TBD

Date of Intake: 05/14/2007

1/2 CP

Additions:

✓ 9.a1 milk, 2% fat or reduced fat

3/4 CP

Confirmed 2% fat milk purchased at work.

✓ 8:00p SNACK HOME

✓ 10. tea, spearmint

2 CP, without ice (16.00 FO)

no sugar or sweetener was added

✓ 11. cookies and bars, chocolate chip; without nuts, commercial package, regular

2 small (1.00 medium - approx 2 1/4" diameter)

✓ 9:00p DINNER/SUPPER HOME

✓ 12. salad, lettuce, tossed, with dressing, with tomatoes and/or carrots, without avocado, cheese or egg

1 1/2 CP

Food Variables:

12.v1 I: salad greens - mixed greens

12.v2 I: dressing for salads - oil and vinegar, homemade

12.v2v1 I: fat used in recipe - oil, Mazola Vegetable

12.v2v2 I: salt - regular

✓ 13. spaghetti - main dish (noodles and sauce), with tomato sauce, with meat, from recipe

1 CP

Food Variables:

13.v1 I: spaghetti sauce, with meat - homemade, unknown preparation

✓ 14. water - tap

12 FO, without ice (1.50 CP)

Foods Report

Nutrition Data System for Research 2007

Project Abbreviation: 09W001

Participant ID: TBD

Date of Intake: 05/14/2007

✓ 10:00p SNACK HOME

✓ 15. tea, camomile

1 CP, without ice (8.00 FO)

Additions:

✓ 15.a1 brown sugar

1 TS, unpacked

[End of Record]

Legend: a = addition; i = component/ingredient; v = variable; check = complete; ? = incomplete; m = missing food

Appendix 7: Dietary Supplements Report

Dietary Supplements Report

Nutrition Data System for Research 2007

Project Abbreviation: 09W001

Participant ID: TBD

Date of Intake: 05/14/2007

✓ 1. NATURE'S WAY ALIVE! WHOLE FOOD ENERGIZER MULTI-VITAMIN TABLETS

Taken 30 times in the last 30 days, 1 tablet/day, and 1 time (1 tablet) yesterday

Taken for: 2 Months

Why taken: Health purposes, to prevent cold

✓ 2. TUMS REGULAR STRENGTH ANTACID / CALCIUM 200 MG

Taken 10 times in the last 30 days, 2 tablets/day, and 1 time (2 tablets) yesterday

Taken for: 3 Months

Why taken: heartburn

Legend: check = complete; ? = incomplete; m = missing product



Appendix 8: FTP Program (QvtNet) Installation

The following steps describe how to install the FTP program, QvtNet.

QvtNet will be used for transferring NDSR backup files between the Field Centers, the Nutrition Reading Center (NRC) and the Coordinating Center (CC). QvtNet will be installed on the computer the lead interviewer will use to transfer backup files to the NRC.

1. Navigate to **C:\Program files\NCC\NDSR2007** and create a new folder. Name the folder “FTP Program”.
2. Open the email message “FTP Program Installation”. Save the attached file, **QVTNET4.ZIP**, to the “FTP Program” folder.
3. Open the “FTP Program” folder and right-click on the **QVTNET4.ZIP** file. Select **WinZip** → **Extract to here**.
4. Open the **SETUP.EXE** file in the “FTP Program” folder to begin installation.
 - a. At the **Welcome** window, select the **Next** button.
 - b. At the **Choose Destination Location** window, select the **Next** button.
 - c. At the **Select Components** window, deselect **Terminal**, **Gopher**, **lpr**, **Mail**, **News**, and **Servers**. Select the **Next** button to continue.
 - d. At the **Folder Selection** window, select the **Next** button and wait for the program to install.
 - e. When setup is complete, select the **OK** button.

QvtNet installation is complete.

5. If you have problems get help from the technical specialist at your field center for computer issues.



Appendix 9: Send NDSR Backup Files to NRC

The following steps describe how to transfer NDSR backup files from the Field Centers or Coordinating Center to the Nutrition Reading Center (NRC).

1. Navigate to **Start** → **Programs** → **QvtNet** → **Ftp**. You will receive the **QVT/FTP** window.
2. Select **Open** from the **File** menu. Complete the form using the following information.
 - a. **Host:** epicor.epi.umn.edu
 - b. **Username:** XXXXXXXX
 - c. **Password:** XXXXXXXXX
 - d. **IP Port:** *do not change*

Select the **OK** button to continue. If you receive a message from your firewall, choose to “allow it” or “unblock.”

3. On the left side of the **QVT/FTP** window, locate **--- Local Filesystem ---**. This represents your computer. You will see an empty field indicated by a scroll icon (▼) directly under **Local Filesystem ---**. Choose **[-c-]** from the drop-down list and you will receive the list of folders that are located on your C:/ drive, in the **Directories** pane. If you DO NOT receive the list of folders, click on another drive from the drop-down list and then choose **[-c-]** again.
4. Select **Program Files** → **NCC** → **NDSR 2007** → **Backup** in the **Directories** pane.
5. Locate the backup file you wish to transfer to the Nutrition Reading Center (NRC) in the **Files** pane on the left side of the **QVT/FTP** window.
6. On the right side of the **QVT/FTP** window, locate **--- Remote Filesystem ---**. This represents the computer at NRC. You will see a **Directories** pane and a **Files** pane directly

under --- **Remote Filesystem** ---. Drag the backup file you wish to transfer from **Files** pane on the left side of the window (your computer) and drop it in the **Files** pane on the right side of the window (the computer at NRC). You will receive the **FTP Upload** window.

7. Note the backup file you wish to transfer in the **Selected** pane. Select the **Binary** radio button and then the **Start** button. Note that the backup file has moved from the **Selected** pane to the **Transferred** pane. Select the **Close** button.
8. On the **QVT/FTP** window, check if the backup file has been moved successfully to the **Files** pane under **Remote Filesystem** ---.
9. Select **Exit** under the **File** menu to close the program.
10. Send an email with the subject line “(month-year) Backup file from (name of field center)” to Mary Austin at austi006@umn.edu and include the following information:
 - a. Project Abbreviation
 - b. Dates of recalls (collected from – to)
 - c. Number of recalls in the project
 - d. NSDR version (in NSDR click on Help → About NSDR)
11. You will receive a confirmation email from NRC.



Appendix 10: Receiving NDSR Backup Files from NRC

The following steps describe how to transfer NDSR backup files from the Nutrition Reading Center (NRC) to your computer.

1. Navigate to **C:\Program files\NCC\NDSR2007** and create a new folder. Name the folder “Files from NRC”. Store the NDSR backup files that you receive from the NRC in this file.
2. Navigate to **Start → Programs → QvtNet → Ftp**. You will receive the **QVT/FTP** window.
3. Select **Open** from the **File** menu. Complete the form using the following information.
 - a. **Host:** epicor.epi.umn.edu
 - b. **Username:** XXXXXXXX
 - c. **Password:** XXXXXXXXX
 - d. **IP Port:** *do not change*

Select the **OK** button to continue. If you receive a message from your firewall, choose to “allow it” or “unblock.”

4. On the right side of the **QVT/FTP** window, locate --- **Remote Filesystem** ---. This represents the computer at NRC. You will see a **Directories** pane and a **Files** pane directly under --- **Remote Filesystem** ---. Locate the backup file you wish to transfer to your computer in the **Files** pane.
5. On the left side of the **QVT/FTP** window, locate --- **Local Filesystem** ---. This represents your computer. You will see an empty field indicated by a scroll icon (▼) directly under --- **Local Filesystem** ---. Choose **[-c-]** from the drop-down list and you will receive the list of folders that are located on your C:/ drive, in the **Directories** pane. If you DO NOT receive the list of folders, choose another drive from the drop-down list and choose **[-c-]** again.

6. Select **Program Files** → **NCC** → **NDSR 2007** → **Files from NRC** in the **Directories** pane.
7. Drag the backup file you wish to transfer from **Files** pane on the right side of the window (the computer at NRC) and drop it in the **Files** pane on the left side of the window (your computer).
You will receive the **FTP Upload** window.
8. Note the backup file you wish to transfer in the **Selected** pane. Select the **Binary** radio button and then the **Start** button. Note that the backup file has moved from the **Selected** pane to the **Transferred** pane. Select the **Close** button.
9. On the **QVT/FTP** window, check if the backup file has been moved successfully to the **Files** pane under **---Local Filesystem---**.
10. Select **Exit** under the **File** menu to close the program.
11. Navigate to **C:\Program files\NCC\NDSR2007** and locate the backup file. Change the extension from “ZIP;1” to “ZIP.” To change the extension of the file: Right-click on the backup file and delete “;1” keep the name of the file. Open NDSR and restore the file.

Appendix 11: HCHS/SOL Dietary and Supplement Recall Interview Assessment Form

Dietary Interviewer ID: _____	Field Center: _____
NRC Staff participant: _____	Date of Observation: _____
Language: _____	
1. Baseline or 2. Final (<i>circle</i>) 1. In-person or 2. Telephone recall (<i>circle</i>)	

Set-up and Introduction	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Computer set-up and NDSR program loaded and ready-to-go	
2. Forms and materials available	
3. Introduces himself/herself, establishes rapport	
4. Explains task and set the language	
5. Shows or references participant to the amount estimation tools	
6. Thanks the participant	
Comments or Concerns on Set-up and Introduction	

Quick List	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Follows interviewer prompts on quick list	
2. Prompts for additional food and beverage items with meals	
3. Prompts for items or snacks where there are time gaps	
4. Conducts review of Quick list, probing for omissions	
Comments or Concerns on the Quick List	

HCHS/SOL Dietary and Supplement Recall Interview Assessment Form

Meal Information Window	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. State back appropriate time given during quick list (am, pm)	
2. Uses appropriate questions for meal name and location	
Comments or Concerns on the Meal Information Window	
Food Additions and Food Search/Variable Windows	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Asks about additions until they receive a “no” response	
2. Collects complete food detail per NDSR prompts	
3. Asks appropriate variable and ingredient questions	
Comments or Concerns on the Food Additions and Search/Variable Windows	

Food Detail Window	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Collects complete food detail per NDSR prompts	
2. Collects amount detail per NDSR prompts	
3. Uses NDSR units and types appropriately	
4. Uses amount estimation tools appropriately	
5. Confirms unusual amounts with the participant	
6. Leaves appropriate and clear notes as necessary	
Comments or Concerns on the Food Detail Window	

HCHS/SOL Dietary and Supplement Recall Interview Assessment Form

Review of Record and Trailer Tab	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Uses the interviewer prompts to review the record	
2. Asks for missing foods/beverages with each eating occasion	
3. Asks for missing items between meals	
4. Reviews the record reading back items, amounts, and details	
5. Asks the trailer tab questions appropriately	
Comments or Concerns on the Review of the Record or Trailer Tab	

Dietary Supplement Assessment Module	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Uses prompt to continue the recall with the DSAM	
2. Explains the next 10 questions need to be answer	
3. Collects product information per NDSR prompt	
4. Collects details of the product appropriately	
5. Collects a meaningful answer for the question “Reason for Use”	
6. Collects complete information of the missing products	
Comments or Concerns of the Dietary Supplement Assessment Module	

Interviewing Technique and Overall Assessment	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Motivates the participant and leads the interview	
2. Uses open-ended questions	
3. Maintains a comfortable pace	
4. Remains neutral throughout the interview	
5. Uses NDSR notes to document questionable foods and amounts	
6. Understands the NDSR database and can find foods quickly	
General Comments or Concerns of Overall Assessment and Interviewing	

Dietary Behavior Questionnaire	Satisfactory (S) Needs Improvement (NI) Not Applicable (NA)
1. Asks questions properly	
2. Reads all the choices for each question	
3. Records the answer the participant selected	
General Comments or Concerns on the administration of the Dietary behavior Questionnaire	

Appendix 12: HCHS/SOL Dietary and Supplement Inquiry Form

NRC Staff Name:

Date of inquiry:

Field center:

Project abbreviation:

Lead interviewer:

Instructions: Review the following and provide a response if warranted. Return this form by e-mail to **steve004@umn.edu** or by fax to 612-626-9444 to Mary Stevens within one week of receipt.

Participant ID	Date of intake	Food number	Supplement number	Inquiry/Reminder	Response

For use by NRC only

Date of Receipt:

Appendix 13: HCHS/SOL Field Center Visit Checklist

NRC observer name: _____ Mode (*circle*): 1 In-person interview

Date (mm/dd/yyyy): _____ 2 Telephone Interview

Interviewer ID: _____ Field Center: _____

Instructions: Check the following fields using one of the three key letters listed below that best describe the observations during the dietary and supplement recall. Any additional observation, please use the notes field.

S: Satisfactory **U:** Unsatisfactory **NA:** Not Applicable

1.

The dietary interviewer has all the material ready for the dietary and supplement recall

Please check:

_____ HCHS/SOL Dietary and Supplement Recall Checklist

_____ HCHS/SOL Telephone Recall Availability Form

_____ HCHS/SOL Telephone Contact Log

_____ Nasco and household food models

_____ Computer set with the participant's information

_____ Bag with the dietary supplements

_____ Headset for the telephone interview

_____ Food Amount Booklet

_____ HCHS/SOL Food Glossary

_____ Comfortable and private environment

NOTES:

2. Establishing Rapport

_____ Establishes and maintains a friendly and trusting atmosphere

_____ Sets the language with the participant

_____ Presents questions appropriately without biasing the interview

_____ Remains objective during the interview and accepts information in a non-judgmental manner

_____ Encourages active participation

3. Providing Clear and Simple Instructions

_____ The dietary interviewer provides an overview about the dietary and supplement recall and also explains how the food models and the Food Amounts Booklet will be used during the interview.

Opportunity for questions is provided

_____ Dietary interviewer does not get bogged down with details

4. General Interview Skills

_____ Develops a natural conversational flow and talks at a good pace

- ___ Uses prompts and probes effectively to get accurate answers from the participant
- ___ Uses transitions as necessary
- ___ Is prepared and knows the materials
- ___ Repeats or rephrases question if participant did not hear or is confused
- ___ Ask every question and option on the Dietary Behavior Questionnaire...does not assume he/she knows the answer to the question
- ___ Remains patient

5. Fill out the Forms

- ___ Completes the Telephone Recall Availability Form and explains the purpose of it
- ___ Registers each attempt to contact the participant during the second interview on the Telephone Contact Log

6. Quality Control

- ___ Takes time to edit and review the interview immediately after its administration
- ___ Prints the Record Properties, Foods and Dietary Supplement Reports and place them on the participant's folder

7. Confidentiality of the Information

- ___ Printed reports are stored in a secure location
- ___ The dietary interviewer does not discuss information collected with other participants
- ___ Any discussion between interviewers is conducted in private
- ___ The name of the participant is not included on the recalls

NOTES:

