THE STRONG HEART STUDY
Cardiovascular Disease in American Indians (Phase III)

Operations Manual
Volume Five
Dietary and Quality of Life Studies

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MANUAL V

DIETARY AND QUALITY OF LIFE STUDIES

Table of Contents

1. Dietary Interview
   1.1 Purpose of the Dietary Interview ........................................ 1
   1.2 Overview of the 24-hour Recall ........................................... 1
   1.3 General Interviewing Techniques ......................................... 3
       1.3.1 Beginning the Interview ................................................ 3
       1.3.2 Administering the Interview ........................................... 4
       1.3.3 Probing........................................................................... 6
       1.3.4 Kinds of Probes................................................................. 8
       1.3.5 Ending the Interview.......................................................... 10
       1.3.6 Editing............................................................................. 12
   1.4 Detailed Format for the 24 Hour Recall .................................. 12
       1.4.1 Introduction ...................................................................... 12
       1.4.2 Create an Itemized List....................................................... 13
       1.4.3 Ask About Fasting............................................................... 14
       1.4.4 Amount of Food Consumed................................................ 15
       1.4.5 Completing the Food Description...................................... 16
       1.4.6 Review the Food List.......................................................... 17
       1.4.7 Reliability ......................................................................... 18

Appendix

1. Recall Review ............................................................................. 20
2. Ingredient List ........................................................................... 21
3. Probe about Traditional Foods ................................................... 22
4. Dietary Intake - 24-hour Recall ................................................ 44

2. Quality of Life Interview ............................................................. 48
3. Center for Epidemiological Studies Depression Scale (CES-D) ........ 52
1. DIETARY INTERVIEW

1.1 Purpose of the Dietary Interview

To obtain mean intakes of nutrients for males and females of different ages in the population.

1.2 Overview of the 24-hour Recall

Introductions

- Introduce yourself.
- Communicate the importance of the subject's role in the Strong Heart Dietary study and the importance of receiving complete and accurate dietary information.
- Explain that the 24-hour recall will be part of the report on the average intake of all persons participating in the study, that it will be completely confidential and private.

Create an itemized list of foods consumed in a 24 hour period

- List all foods and beverages consumed during the previous day—a complete 24 hour period from midnight (12AM) to midnight (11:59)
- Specify eating times or meal names associated with these foods and beverages
- Ask if the way they ate was changed because of the fasting requirement

Fill in the list of foods and beverages with more detail

- Explain how to use the models to show the amount consumed
- Probe about each food and record as complete a description as possible
- Record the amount consumed
- Ask if something was added to the food and record the new food on a separate line.

Review the form with the participant again, giving time for any additions or alterations.

Ask about commonly forgotten foods

Complete the top section of the form.

Thank the participant for her/his time and repeat the value of all the information.
We strongly discourage interviewing the client in their home because all interviews should be carried out as similarly as possible. So, in the unlikely event you have to go to a client's home to do the dietary recall interview, do not allow the client to get up and show you the food from the refrigerator or the cupboard. Do not do anything differently than the interview done in the clinic.

**General Probing Guidelines**

- Ask questions in an open-ended way.

  For example, "What was the first thing you ate or drank yesterday?"

  *Not* "What did you have for breakfast?"

- Obtain additional information by probing.

  Relate eating to other activities, e.g. "Did you stop any place after work? Did you have anything to eat or drink there?"

- Ask non-leading questions, which do not expect a particular answer, to obtain specific detail.

  "Was that the same margarine as at breakfast?"

- Allow adequate time for the client to think about the answers.

- Be neutral in your responses to the information. Do not indicate approval or disapproval.

- Rephrase questions if the participant does not seem to understand the questions.

  "Did you have anything in your coffee?" explain as follows: "Did you put anything in your coffee before drinking it or was it plain coffee?"

- Stop probing when the client begins to be irritated or annoyed. We do not want the client to stop cooperating or to refuse the rest of the interview procedures.
1.3 General Interviewing Techniques

Before Beginning the Interview

Before beginning the interview, take some time to make sure you are thoroughly prepared. Review your manual and other materials given to you during training until you fully understand all aspects of your job. Practice doing the interview until you are comfortable with the procedure. This practice will help in building your confidence so that you can deal with any situation you may encounter when you begin interviewing. Your ability to work comfortably will help keep your respondents interested in the interview and will help your interviews go smoothly. Respondents quickly lose interest when the interviewer is constantly stopping, losing track of his/her place and stumbling in his/her efforts to ask questions or probe.

Check to make sure you have sufficient quantities of all necessary materials, and that your materials are organized in an orderly way. Materials that are to be handed to respondents should be easily accessible to avoid any awkward fumbling or searching.

The first thing a respondent notices about an interviewer is appearance. In general, an interviewer should aim at an appearance that is neat, suitable, and inconspicuous. Avoid extremes of any kind. Keep in mind that it is better to be a little underdressed than overdressed, and that, regardless of what clothes you wear, cleanliness and neatness are always very important.

1.3.1 Beginning the Interview

When you first make contact with a respondent, your initial task is to establish a friendly but professional relationship. Your own confident and professional manner will reassure the respondent and set a tone that will enable you to complete the interview in an efficient manner. Experience with past surveys has indicated that there are three main factors that determine whether a respondent will consent to be interviewed.

The Rapport Established Between the Interviewer and the Respondent

"Rapport" is the term used to describe the personal relationship between the interviewer and the respondent. Rapport provides the foundation for good interviewing. Your appearance, your introductory remarks, and the way you answer any questions the respondent may ask will strongly influence the rapport that develops between you and the respondent. What you say and how you say it should set the tone for the friendly, cooperative, but businesslike relationship that will continue to develop throughout the interview.
Whether the Respondent Sees the Survey as Being Important and Worthwhile

An interviewer must try to interest the respondent in the survey. Encourage the respondent to see the interview as an opportunity to express his/her views and to have those views taken seriously.

From the start, the respondent must be given certain basic information about the interview: what to expect during the interview, and what the purpose of the interview is. If asked, you may also explain how the information will be used, and the length of the interview.

Whether the Interviewer Can Respond Convincingly to the Respondent's Objections and Questions

Even respondents who are convinced of the importance of the study may, for a variety of reasons, be reluctant to grant a certain part of the interview. Your friendly manner, your introductory statements, and your success in answering the respondents' questions will help you sell both yourself and the survey to the respondents. Your effectiveness will be increased by your knowledge that your job is legitimate and important, and by your thorough understanding of what you are doing and how to do it.

Your own state of mind -- your conviction that the interview is important -- will strongly influence the respondent's cooperation. Your belief that the information you obtain will be significant and useful will help motivate the respondent to answer fully and accurately. Most people want to be heard and are happy that you have asked their opinions. Those who are reluctant to give specific information will often do so willingly, if they are convinced that good use will be made of it and that their privacy will be protected.

1.3.2 Administering the Interview

The interviewer's task is to collect accurate information. You must have a thorough understanding of the general principles for administering the interview and comprehend fully its confidential nature. The material in the following sections of this manual will acquaint you with the general principles and procedures to follow when collecting survey data.
Asking the Questions

The 24-hour recall is essentially an open-ended interview. Collecting accurate and reliable data requires that every respondent hears exactly the same questions read in exactly the same way. Even small changes in the way a question is asked can affect the way a respondent answers and, in the long run, affect the results when researchers combine the answers given by large numbers of respondents. The basic rules for asking survey questions, discussed below, are all designed to ensure uniformity in the way questions are asked of respondents.

Always Remain Neutral.

During the entire interview you must always maintain a completely neutral attitude. As an interviewer, you must never allow anything in your words or manner to express criticism, surprise, approval, or disapproval of the questions you ask or of the answers respondents give.

An important part of your role as an interviewer is to get the respondent actively involved in the interview, to lead him/her to talk comfortably and freely in response to your questions. While encouraging the respondents to talk freely, however, you must carefully avoid saying or doing anything to influence the content of the respondent's answers. No matter what topics you ask about, no matter how strongly you agree or disagree with the respondent's answers, and no matter how interesting, unusual or discouraging you might find those answers to be, you must always maintain the same neutral and professional stance during the interview. You are there to ask for and record the respondent's answers, not to influence or advise in any way.

At times, particularly if your respondent is talking freely, you may feel that he/she has already answered a question before you get to it. DO NOT SKIP OVER ANY SCHEDULED QUESTIONS, EVEN THOUGH YOU THINK THERE MAY BE SOME REPETITION. If a respondent becomes annoyed or says something like "I just told you that," you can acknowledge the repetition, but explain that you are required to ask all questions. You might say something like:

"I need to make sure that I have your full answer on that."

"I thought perhaps you might have more to say about that."

Sometimes it may be helpful to anticipate the respondent's reaction to the repetition by saying something like:

"You may already have mentioned this, but I need to make sure I have your answer recorded here."

or
"You may have told me about this before, but let me ask this questions to make sure I have the right answer."

To be a good interviewer, you must be comfortable with the questions you ask. If you feel uncomfortable with certain questions, it is likely that you will transmit something of that feeling to the respondent and influence the answers you receive. If you are uneasy with some questions, you should practice them repeatedly until you can ask them in a simple, straightforward, matter-of-fact way. Occasionally you will find a respondent who refuses to answer some questions, but usually you will find that as long as you can deal with all of your questions in the same relaxed and professional manner, your respondents will answer without hesitation.

MAINTAINING RAPPORT

You began your rapport-building process with your introduction, and it must be continued throughout the interview. Through accepting and understanding behavior and your interest in the respondent, you can create a friendly atmosphere in which the respondent can talk freely and fully.

Occasionally rapport may be broken during the interview for some reason such as the respondent feeling that a particular question is "too personal." If this happens, take time to reassure the respondent that he/she may speak freely without fear. This may be done by restating the confidential nature of the interview and the impersonal nature of the survey. If a respondent refuses to answer a question after you have reassured him or her of confidentiality, do not press the respondent -- enter a refusal response and the system will automatically skip to the next appropriate question. It is mandatory to attach a note to a refusal response.

Occasionally a question may lead a respondent to begin reminiscing or to relate a lengthy story that has little or no relevance to the survey. As an interviewer, your task is to discourage such irrelevant conversation and keep the discussion focused on the interview. In some ways, this requires that you subtly teach the respondent how to be a good respondent. If you maintain a businesslike attitude, acknowledge answers with neutral comments such as "I see," "OK," or a simple nod of your head, and tactfully interrupt rambling and irrelevant answers to bring the conversation back to the question you have asked, the respondent will soon learn how to be a good respondent and provide the kinds of answers you need. If you must interrupt a respondent, do it politely, taking care not to antagonize him/her. You might say something like:

"That sounds very interesting, but what I need to ask is..."

"I see what you mean, but let me repeat that last question..."

1.3.3 PROBING: WHAT IS PROBING AND WHY IS IT NECESSARY
Probing is the technique used by the interviewer to stimulate discussion and obtain more information. The quality of the interview depends a great deal on the interviewer's ability to probe meaningfully and successfully. We probe when a respondent's answer is not meaningful or is incomplete, i.e., when it does not adequately answer the question. There are a number of reasons respondents sometimes do not answer the question to our satisfaction.

In every day social conversation, people normally speak in vague and loose terms. It is understood that respondents will at first respond to our questions in a way which is not clear or specific. It is important to encourage the respondent to express himself/herself more concretely, in very specific terms.

Sometimes respondents will think that they are answering a question when all they are doing is simply repeating an answer which was already given, or simply repeating parts of a question. A respondent can talk a great deal and still be just repeating the question in different words.

Respondents will sometimes miss the point of the question. Many times they will give responses which seem to answer the question, but when you look further, are not to the point of the question and are therefore irrelevant. It is easy to be "taken in" by a respondent who is talkative and gives a lengthy and detailed response which, however, is quite beside the point. It is not the answer to the question asked. In most cases, a respondent gives an irrelevant response because he/she has missed an important word or phrase in the question.

Probing, therefore, has two major functions. First, probing motivates respondents to enlarge, clarify, or explain the reasons for their answers. Secondly, probing focuses the respondent's answer so that irrelevant and unnecessary information can be eliminated. All this must be done, however, without introducing bias or antagonizing the respondent.

Some examples of answers that for different reasons fail to answer the questions properly are given next. Because of the answers given, each requires probing.

**EXAMPLES OF ANSWERS THAT REQUIRE PROBING**

**Question:** How much plain water do you **usually** drink in a 24-hour period of time?

**Answer:** My doctors says I should drink more water.

**Probing Methods Should be Neutral**

It is very important to always use neutral probes. By this we mean you should not imply to the respondent that you expect a specific answer or that you are dissatisfied with an answer.
Remember the reason for probing is to motivate the respondent to respond more fully or to focus the answer, without introducing bias. The potential for bias is great in the use of probes. Under the pressure of the interviewing situation, the interviewer may quite unintentionally imply that some answers are more acceptable than others or may hint that a respondent might want to consider this or include that in giving responses. You must be careful not to do this.

The following example consists of a response from the client, and two possible problems. The first of these probes is neutral, the other is not.

**Example:**
**Client:** I had a cup of coffee at 9:00 a.m.

**Neutral Probe:** Did you add anything to your coffee?

**Non-neutral Probe:** So you probably added cream and sugar?

The non-neutral probe suggests a specific answer to the respondent and thus leads the respondent toward that answer, rather than leaving the range of possible responses completely open for the respondent to specify.

### 1.3.4 Kinds of Probes

There are several different neutral probes which appear as part of a normal conversation that can be used to stimulate a fuller, clearer response.

1. **AN EXPRESSION OF INTEREST AND UNDERSTANDING.** By saying such things as "un-huh" or "I see" or "yes," the interviewer indicates that the response has been heard, that it is interesting and that more is expected.

2. **AN EXPECTANT PAUSE.** The simplest way to convey to a respondent that you know he/she has begun to answer the question, but has more to say, is to be silent. The pause -- often accompanied by an expectant look or a nod of the head -- allows the respondent time to gather his or her thoughts. Eye contact is important here.

3. **REPEAT THE QUESTION.** When the respondent does not seem to understand the question, or misinterprets it, or seems unable to decide, or strays from the subject, it is often useful to repeat the question. Many respondents, when hearing the question for the second time, realize what kind of answer is needed.

4. **REPEATING THE RESPONDENT’S REPLY.** Simply repeating what the respondent has said is often an excellent probe. Hearing the response just given often stimulates the respondent to further thought.
5. **A NEUTRAL QUESTION OR COMMENT.** Neutral questions or comments are often used to obtain clearer and fuller responses. The following are some suggestions for probing questions that may help explore many types of insufficient answers.

**PROBES TO CLARIFY:**

"What do you mean exactly?"

"What do you mean by...?"

"Could you please explain that a little? I don't think I quite understand."

**PROBES FOR SPECIFICITY:**

"Could you be more specific about that?"

"Tell me more about that."

**PROBES FOR RELEVANCE:**

"I see. Well, let me ask you again...(REPEAT EXACT QUESTION)."

**PROBES FOR COMPLETENESS:**

"What else?"

"What else can you think of?"

**I Don't Know (DK) Response**

The "I don't know" answer can mean a number of things. For instance,

- The respondent doesn't understand the question and says DK to avoid saying he/she doesn't understand;

- The respondent is thinking the question over, and says DK to fill the silence and give himself/herself time to think;

Try to decide which of the above may be the case. Don't be in too big a rush to settle for a "don't know" reply. If you sit quietly -- but expectantly -- your respondent will usually think of something. Silence and waiting are frequently your best probes for a "don't know" reply.

Always try at least once to obtain a reply to a "don't know" response, before
accepting it as the final answer. But be careful not to antagonize respondents or force an answer. If they say again that they "don't know," proceed to the next appropriate question after coding the DK reply.

**Additional Guidelines for Probing**

The following rules and examples provide further guidance to help you select problems that will not bias respondent's answers.

1. Don't ask "Do you mean ____ or ____?" Such a probe suggests only one or two possible answers, when the respondent may actually be thinking about other possibilities. Do not use probes for clarity and specificity when a respondent's answers are unclear.

**Example**

**Question:** Did you put anything on your grapefruit?

**Answer:** Yes, Sweetener

**Neutral Probe:** Could you be more specific? What type of sweetener?

**Non-neutral Probe:** You mean it was Equal or Sweet 'n Low?

**Example**

**Question:** What did you eat at that time?

**Answer:** I had eggs and juice

**Neutral Probe:** Did you eat or drink anything else at that time?

**Non-neutral Probe:** So you had breakfast -- you probably had coffee, too then?

**When to Stop Probing**

When you have obtained all necessary information about the respondent and when you have encouraged the respondent to clarify the meaning of his/her own words so that you (and we) know exactly what he/she had in mind -- only then do you have a complete answer and only then should you stop probing. However, if at any time the respondent becomes irritated or annoyed, discontinue probing. We do not want the respondent to refuse the rest of the interview.

1.3.5 Ending the Interview
All people who give their time for an interview are entitled to courteous and tactful treatment. Try to leave respondents with the impression that they have taken part in an interesting and worthwhile experience -- one they would be willing to repeat.

After all questions have been asked, indicate your appreciation to respondents by thanking them; also mention that their contribution has been most helpful in providing important information to the study. Remember that the respondent is familiar with your task from the discussion at the beginning of the interview, so don't spend too much time going over the same information. Spend a few minutes answering any additional questions your respondent may have; then close the interview.
1.3.6 Editing

After you have completed the interview with a respondent, you are to edit or check your work. You should try to complete the edit before the client leaves. Once the client leaves, data that were not collected or data that needed to be corrected are lost forever.

Although editing is not difficult, it is an important part of an interviewer's job. The main purposes of editing are:

1. **TO REVIEW ALL SECTIONS OF INTERVIEW** -- Review each section to assure all information is complete and accurate.

2. **TO LEARN FROM MISTAKES SO THEY ARE NOT REPEATED** -- There is an educational value in editing. Many interviewers feel that the interviewing procedures become more meaningful after they have conducted the first few interviews. Editing will improve the quality of your interviews for the remainder of the study, as well as catch errors. Editing, therefore, is part of the learning process for a survey.

3. **TO WRITE OUT ABBREVIATIONS** -- The clerical aspect of editing is an obvious one. This includes checking to make sure any abbreviations that are not commonly understood are clarified, and to assure that notes and any other comments are presented for easy comprehension.

4. **TO ADD YOUR COMMENTS WHICH MIGHT HELP TO UNDERSTAND A RESPONSE OR AN INTERVIEW AS A WHOLE** -- Add notes concerning the respondent, the interviewing situation, or anything else that you feel might help in the correct interpretation of the interview.

1.4 Detailed Format for the 24-hour Recall

Before beginning the dietary recall, record:

1. The subject's name and ID number (social security or strong heart) in participant ID section.
2. Your ID number and initials in interviewer ID section.
3. The date of the visit, the visit number, and the intake day (i.e. the day being recalled), subject's date of birth, sex - M / F.

1.4.1 Introductions

Introduce yourself and communicate the importance of the subject's role in the Strong Heart Dietary study and the importance of receiving complete and accurate dietary
information. Explain that the data you will be collecting will be part of a report on the average intake of all persons participating in the study and that it will be completely confidential and private.

For example:

"Hello, my name is ( ). I work with The Strong Heart Dietary Study and we are collecting information on what people in your age group eat and drink. We are going to look at this information to find out if some of the foods you eat or the way they are cooked lead to heart disease." Everything you say here will be kept confidential."

1.4.2. Create an itemized list of foods and beverages consumed

The client must understand that you are interested in recording everything eaten or drunk during the 24 hours of the previous day, from midnight to midnight. It is important to define the day and time exactly, such as, "We'll be talking about the period from 12 midnight Tuesday to 12 midnight last night. If the client were to report eating an item at midnight the day before and the night before the exact time frame is 12:00 am to 11:59 pm.

Explain to the client that during the first step of simply listing the foods and beverages consumed, the client must tell you the approximate time the foods and beverages were eaten. Have the respondent categorize the foods and beverages by using a time frame, e.g., "At 8:00 am, I had coffee and eggs. At 10:00 am, I had a doughnut."

Inform the client that you will be asking for more detail about these foods later.

Emphasize that the client is to tell you everything eaten or drunk, including snacks, coffee breaks and alcoholic beverages, at home or away from home. Include tap and bottled water, Perrier, mineral water, herbal tea, alcoholic beverages and pop or soda. Do not include chewing gum, or chewing tobacco (snuff or chew), or any fiber supplements.

For example,

"What we want to do first is to make a list of all the foods and beverages that you have had in a 24 hour period of time, a complete day. This includes alcoholic beverages, pop or soda, tap water, mineral water like Perrier, herbal teas, Indian teas and tap or spring water. Remember to include all snacks."

"Today is (day of the week)... I'd like you to tell me everything you ate or drank all day (yesterday)... from midnight (previous night) until midnight (yesterday). This means if you went to bed (previous night) after midnight, and you ate or drank something, you would start there. If you were asleep at that time, start with the first thing you ate or drank after you woke up"
yesterday."

"I would also like you to tell me what time you ate. For example, at 8:00 am I had this, at 10:00 I had that." We'll make a very general list at first, then we'll go back and fill it in with more detail."

You can start with the first food whenever you're ready."

As the participant tells you what he/she ate, record each food or beverage on a separate line. Record enough detail so that you can remember what they ate and ask for more detail later. If they give you more detail than you need, record this but remember to check it during the second part of the interview. Don't worry about the order of the foods.

For example, if the client says coffee, eggs, and toast, enter coffee on the first line, eggs on the second line and toast on the third line. When you go back through the 24 hour recall form for the second part of the interview, you will ask what he/she added to their coffee. If sugar and cream are mentioned, record sugar and cream on separate lines. Put the line number of the coffee in parentheses next to the sugar and cream so that the data entry person know that these items were in the coffee.

Try not to interrupt the respondent--the only exception is if they forget to give you the time consumed (or a meal name). If the respondent is unable to recall what they ate, use non-leading probes, such as:

1) "What was the next thing you had?"
2) "What else did you have at that time?"
3) "Perhaps it will help you to think about what you did yesterday."

Don't mention a meal name or ask about foods they usually eat: i.e. "What did you have for breakfast?" or "Do you usually have a cup of coffee first?"

Print clearly in ink. Use additional lines freely. If you or the subject makes an error, draw a line through the entry, and rewrite it either on another line, with the appropriate time and place, or at the bottom of the form, with reference to the original line number. Mark continuation pages as required.

1.4.3. Ask about fasting

After the foods are listed, you need to assess if the participant changed their usual eating habits because of the fasting requirement. For example, "Did you change the way you ate last night between the hours of ... and ... because of the fasting requirement?" If they did, ask: "How did you change the way you ate?"

If the amount of food or the time eaten had changed, continue with the interview.
If food or beverages were not eaten because of the requirement, ask what the participant had eaten during that time period the previous evening (two evenings before the interview). Record these foods but note with an asterisk (*) that they were from the previous evening.

**Fill in the list with more detail**

For every food, you need to complete the following information: time eaten, and the place food was prepared (1=home, 2=restaurant). In addition, you will be asking the amount consumed and for a complete description of the food (including if salt was added in preparation or at the table, fat was added in preparation, and type of fat used in preparation.

You can introduce this next step by saying:

"We are now going to fill in this list with more information about the foods you ate."

1.4.4. **Amount of food consumed**

Introduce the use of food models and measures. For example:

"I need to know the amount of the foods and beverages that you ate. As we go through the list of foods, you can use any of these models (point to them) to show me how much of each food you ate. If you use the spoons, please tell me the amount in terms of level spoonfuls."

It is good practice for the participant to show you using one of the models even if they explicitly state the amount, i.e. the participant responds verbally with the number of cups or ounces. For example, if a respondent says: "It was an 8 oz glass", your response should be: "Please show me with one of the models."

After they've shown you, **always** ask: "How many did you eat?" Also ask if they ate or drank the whole portion. For example, "How full was the glass? How much did you drink?"

We don't record foods in amounts less than one tablespoon unless it is a fat, salty food, sugar, artificial sugar or other food that is a nutrient or calories dense source. **No matter what quantity is reported, artificial sweeteners must always be recorded.**

1. Fats include: margarine, oil, butter, nuts, coconut, salad dressing, avocado, cream cheese and other cheeses, non-dairy creamer and cream

2. Salty items include: soy sauce, teriyaki sauce, tamari, mustard, catsup, pickles, bacon bits, olives, anchovies and caviar.
3. Sugars include: sugar, honey, jelly, jam, corn syrup, fructose, pancake syrup and chocolate syrup.

4. Others: protein supplement, oat or wheat bran, wheat germ, vegetables high in Vitamin A/C.

If the respondent is having trouble with a particular model or the model seems inappropriate, suggest that they use a different model. For example, they pick up a teaspoon but say it was heaping and can't say how many level teaspoons it was.

Have the participant point to lines on the models (i.e. 4 oz, 6 oz, 8 oz.). Record both sizes if subject states his serving was between 2 sizes, e.g. 1/2 to 3/4 cup.

**Food-specific guidelines**

1) Try to get beverages without ice. If this is impossible, note that the amount was with ice.

2) Try to get the amount of meat without the bone. If you cannot, have the participant estimate the size of the bone.

3) If you record the brand for packaged foods (eg. candy bars, soda/pop, cookies, crackers, pre-sliced cheeses or luncheon meats), the participant does not need to use a food model but try to be aware of different serving size options that are commonly available and record this (eg. mini- versus regular-size candy bars).

4) The form is important for some foods, i.e. chopped, diced, melted, solid, ground, or shredded (eg. cheeses or meats). Some of these are noted in the probing guidelines in Appendix I.

5) Thickness is also important for some foods (eg. fry breads, pieces of cake/pie, homemade tortillas)

**1.4.5. Completing the food description**

After filling in the amount of a food consumed, you need to get as complete a description of that food as possible. Use open-ended questions that are non-leading but specific to the kind of food. Appendix I contains questions you should ask about each kind of food. Follow these probing guidelines for each food or food group. If you have to mention specific options, try to give more than 2 options and always say "or some other type". For example, "At 6am you drank coffee, was the coffee brewed from ground, instant, from a vending machine, or some other type of coffee?"

Fill in the columns about salt added in preparation or at the table and fat added in preparation. Note the type of fat and/or the brand name used in preparation in the description; the type of fat used in preparation or added to foods is very important to the goals of this study. If the client ate in a restaurant or at someone else's home, ask if they thought that salt was added and as a last resort "If the food tasted like salt was added". If
they say "Yes" then mark on the form that salt was added in preparation.

Obtain brand names of commercially-prepared foods, however, be careful because some respondents may use a brand name instead of a generic name to refer to a food. For example, Coke instead of cola or koolaid versus some powdered mix. Probe: "Was is actually Coke or was it another brand of soda or pop?"

Record the names of restaurants and fast food establishments where the food was prepared.

If a subject is unsure of how the food was prepared or the ingredients, record what he called the food, in "quotation marks" and note as much as possible even if it seems too vague. For example, general categories of foods (eg. a vegetable), color, and shape.

Appendix II lists certain foods for which you should ask the participant to tell you the ingredients. These are foods that have highly variable ingredients and for which a participant should be able to list the component parts. Sometimes obvious foods are forgotten, eg. they said they ate a sandwich and you've asked them for more detail but they forget the bread. It's OK to ask: "Was that eaten plain, on bread, a roll or with something else?"

Always ask: "Did you add anything to your (food)?" even if it seems unlikely. Indicate foods eaten together by putting brackets around them.

Examples of food-specific probes:

1) "How was the gravy made?"
2) "Did you eat any of the vegetables that you cooked with the meat?"
3) "How much fat was left after you trimmed the meat?"
4) "Can you describe how your eggs were prepared?"

1.4.6. Review the foods

After you have filled in the description and amount of each food, read the list of foods and amounts to the participant quickly to ensure accuracy and completeness. Tell the participant what you are going to do before you start and ask them to stop you at any time if they remember something else or if something needs to be corrected.

Once you have finished, read through the list of "commonly forgotten foods". Add any foods that they have omitted using the same instructions as for other foods.

RECALL REVIEW

Since the information that you have given me will make an important contribution to this
health and nutrition study, I would like to make sure that it is as complete as possible. On this card are some foods and beverages which are often forgotten.

**Fruits, Chips, Candy, Nuts, Cheese**

**Coffee, Tea, Soft Drinks, Juice, Water**

**Beer, Wine, Cocktails, or Any Other Alcoholic Beverage**

**Crackers, Breads**

Can you think of anything else that you ate or drank yesterday that you haven't mentioned?

**Complete the remaining questions on the form**

Record your opinion of the reliability of the information. An explanation must be given for any recall not coded reliable. This code only refers to the quality of the 24 hour recall.

1.4.7. Reliability

**Reliable:** You feel that the respondent made a sincere effort to answer the questions, and that the information given is probably correct. Include recalls in which the respondent does not know certain ingredients in a recipe, such as in a casserole, or whether fat was used in preparation. Classify the recall as reliable even if the majority of food amounts are unknown.

If you perceive the foods reported by the client as accurate, yet he/she says he/she cannot remember his midnight snack, still code this as a reliable recall. In the latter situation, the client has made a sincere effort to report all foods, but just cannot remember his/her snack; the information is reliable.

**Unreliable:** You feel the respondent was not able to give information that you think is correct. Include, for example, an elderly client who cannot seem to understand the instructions or remember what was eaten, or a client who was drunk. Before coding an interview as unreliable, make sure you have exhausted all sources of possible proxies for the client. An elderly client may have been accompanied to the center by a daughter or son who cares for and feeds the client. Do not code unreliable in cases where you do not believe the client, such as an obese person who reports very little intake.

**Refusal:** The client refuses to do the interview before you are able to obtain any information.

**Not Interviewed:** Due to time constraints, there will be occasions when the dietary interviewers are unable to complete interviews on those scheduled for a specific session. A mandatory note is required to explain the situation. Since clients with medical problems may
return in the future once their problems have been treated, attach a note "sent home due to medical problems; may be rescheduled".

In general, if a client recalled food items for the previous day and you were able to record them even though the client had some difficulty with detailed descriptions or amounts, this would still be a RELIABLE interview. An example of an UNRELIABLE interview is a situation where an elderly client reported an entire day's recall and during the Recall Review said those were not the foods he actually had. In this case the client was confused and unlikely able to accurately give a day's recall, especially in the time you would have. In a case like this, record the interview as UNRELIABLE; do not take the additional time to try to start over. If this type of situation happens and after 15-20 minutes you can tell that the client cannot provide a reliable interview, end the interview, thank the client, and attach a note explaining the situation. Check to see if a proxy is available to give the recall for the client.

Ask the participant if "the amount of food they consumed yesterday was typical, considerably less than usual, or considerably more than usual".

Read the question about vitamin or mineral supplement use and if they took one the previous day, list these as a food item. Remember to ask for brand names of vitamins, eg. One A Day Vitamins, and how many they took and dose if possible.

**Thank the participant!**

Thank the participant for her/his time and repeat the value of the information they have given you.
APPENDIX 1 : RECALL REVIEW

Since the information that you have given me will make an important contribution to this health and nutrition study, I would like to make sure that it is as complete as possible. On this card are some foods and beverages which are often forgotten.

Fruits, Chips, Candy, Nuts, Cheese

Coffee, Tea, Soft Drinks, Juice, Water

Beer, Wine, Cocktails, or Any Other Alcoholic Beverage

Crackers, Breads

Can you think of anything else that you ate or drank yesterday that you haven't mentioned?
APPENDIX 2

ASK PARTICIPANTS TO LIST INGREDIENTS FOR THESE FOODS

SANDWICHES: Most clients can give some information about a sandwich. The client should be able to describe a sandwich purchased in restaurant. He/she should be able to tell you if the bread was brown or white, hot dog, hamburgers, chopped or shredded meat or poultry mixed with barbecue sauce on a bun. He/she should be able to tell you if there was lettuce and tomato on it. Certain sandwiches are fairly standard, and if not prepared by the client, are difficult to specify. You do not need to break down sandwiches purchased at national fast food chains into their component parts.

TOSSED SALADS: It is preferable to have a client list and quantify the items in a tossed salad. Remember to apply the small amount recording rule to avoid entering and specifying items which are not necessary due to the small quantity consumed. Should the client know the components of the salad, you can determine the amount based upon whether the client can provide you with information as to the proportion of the ingredients in the salad, for example, "2/3 lettuce and 1/3 other vegetables".

If the client reports a salad but cannot break it down into its individual components, get as much of a description as possible (eg. iceberg versus leaf lettuce, with or without tomatoes).

MIXED DISHES AND SOUPS: This usually refers to recipes that are mixed together and served together as a dish rather than assembled at the table. Include in this category such items as pizza, spaghetti with sauce, meat loaf, beef stroganoff with noodles, beef and broccoli stir fry, quiche, pot pies and casseroles. In general, it is best not to attempt to have the client break down recipes that may have many ingredients into their component parts.

Macaroni and cheese: ask if it was a box mix or if it was made from scratch. If it was made from scratch ask the kind of milk (whole, low fat or skim) and if butter or margarine was added. Remember to ask for brand names of butter and margarine.

TACOS: Tacos can be highly variable. Ask about the kind of tortilla (corn or flour), whether the tortilla was fried or warmed without fat (on a griddle), and what was contained in the topping.

VEGETABLES: Use the color of the vegetable as the main indicator of its nutritional importance. If the vegetable is green, orange or red, the vegetable is worth noting. Do not count small amounts of onions, mushrooms or celery. Do count broccoli, green peppers, orange squash, carrots and tomatoes. Remember that the small amounts recording rule still applies for those vegetables low in Vitamin A and/or C.
APPENDIX 3
PROBES ABOUT TRADITIONAL FOODS

Berry pudding, may be called "wojapi" in the Northern Plains:
- wild berries or canned berries used
- the type of berry eg. blueberries, blackberries
- corn starch or flour was used to thicken it
- sugar or an artificial sweetener was added to it.

Burrito
- type of filling
- sauce added?

Cheese crisp
- type of cheese
- with chili peppers?

Chili
- stew or sauce?
- if stew, with meat and/or beans? red or green chili?

Chili peppers
- the variety or at least the color, size, and shape.

Cholla bud stew
- type of fat used

Chorizo sausage and egg
- enter egg separately and record type of fat used

Corn, squash, and cheese
- type of fat used
- type of cheese

Enchilada
- type of filling
- type of sauce

Fry bread
- type of fat used in frying
- diameter and height
Guyvsa
- type of fat added if any

Lazy bread
- type of fat

Menudo
- get recipe or at least ingredients (e.g., white corn, beef feet)

Posole
- get recipe or at least ingredients (e.g., wheat and beans)

Pinele
- milk added instead of water?

Red chili stew
- type of fat used

Salsa or chili (sauce not a stew):
- red or green salsa
- commercially-prepared or homemade
- if homemade, was fat used in the preparation and the type of fat used

Skillet bread
- type of fat used
- size (diameter)

Soup with turnips:
- wild (timpsila) or store bought turnips

Taco
- fry bread or tortilla (corn or flour)
- if tortilla, fried or warmed without fat?
- ingredients in topping or filling

Tamale
- type of filling
- type of sauce
- dimensions including height

Tepary beans
- type of fat used if any

Probes about Traditional Foods
Tortillas:
- corn or flour tortillas
- fried or warmed without using fat

Tortilla soup
- get recipe or at least ingredients

Wild spinach
- type of fat used if any
- additions (eg, chili peppers, tomatoes)

1. BEEF

- Was it a steak, roast or ground? If ground, was it regular, lean or extra lean?
- What cut?
- Was fat trimmed or not trimmed?
- How was it prepared?
- Was anything added before, during or after cooking, e.g., marinade or coating? If marinated, was it a soy sauce or non-soy sauce mixture? If coated, was coating eaten?
- Fat and salt added in preparation?

2. BEVERAGES

A. Beer

- What type (i.e., regular, light, low alcohol, malt or nonalcoholic)?

B. Cocktails, liquor, and liqueurs

- Name of drink or type of liquor or liqueur and what was added to it?
- Accompaniments (i.e., fruit, olive, cherry)?
- With or without ice, or frozen where applicable (i.e., daiquiri).
C. Coffee
- Type (i.e., regular, espresso, specialty coffees, coffee substitutes)? Get brand name for coffee substitutes, and regular or low calorie for flavored coffees.
- Regular or decaffeinated?
- Ground, instant, liquid, or vending machine?
- Accompaniments (i.e., milk, cream, sugar, artificial sweetener)?
- Liquid or dry amount?
- Plain or flavored?

D. Juices
- What kind?
- Real juice or a juice-flavored drink? Get brand name, and type of sweetener for juice-flavored drinks. If brand name unknown, get flavor, regular or low calorie; or whether fortified with vitamin C.
- Fresh, frozen, or ready-to-drink?
- Sweetened or unsweetened?
- Regular or no salt (where applicable, such as tomato or V-8 juice)?
- With or without ice?

E. Soda
- Brand name (if known)?
- Flavor?
- Regular or diet? If diet, was it sweetened with aspartame or saccharin?
- With or without caffeine?
- With or without ice?
Tea
- Brewed, herbal (flavor), instant, or ready-to-drink? If sugar-free instant, get brand name.
- Regular or decaffeinated?
- Unsweetened or presweetened with sugar or artificial sweetener? If artificial sweetener, was it aspartame, or saccharin?
- Accompaniment (i.e., lemon, sugar, or cream added)?
- With or without ice?

Water
- Quinine, tonic, or mineral? If quinine or tonic, was it regular or diet?

Wine
- Name?
- If name is unknown, red, white, rose, or sparkling; table or dessert; regular or homemade?
- Plain or mixed (i.e., spritzer, cooler)?

Cocoa
- Brand name? Regular, sugar-free, or low calorie?
- Recipe or dry mix? If recipe, what percent milk was used? If dry mix, regular or sugar-free? Was water or milk added? If milk added, what percent fat?
- Any additions (i.e., marshmallows, whipped topping)?

Bread
- Kind (i.e., white, wheat, rye, etc.)?
- Homemade or commercial?
- Regular or diet? Low sodium? If diet, with or without added fiber?
- Toasted or untoasted?
- Accompaniments?

B. Rolls or buns, bagels, English muffin and biscuits
- Kind?
- Baked commercially, or from refrigerated dough, mix, or recipe? If recipe, ask type of fat for biscuits.
- Accompaniments?

C. Coffee cake
- Yeast or quick bread?
- Type of fat in preparation of cake (and topping)?
- Fruits, nuts, fillings, frosting, glaze, and/or streusel topping?

D. Cornbread
- Regular or stuffing?
- Type of fat in preparation?
- Accompaniments?

E. Danish and sweet rolls
- Fruit, nuts, filling, frosted? If frosted, type of fat in frosting.
- Type of fat used in preparation?
- Accompaniments?

F. Donuts
- Yeast, cake, or filled? If filled, with cream/custard of fruit/jelly?
- Plain, frosted, glazed, or powdered sugar? If frosted, what flavor?
- With or without coconut?

G. French Toast
- Fat used in preparation?
- Accompaniments?

H. Fruit Breads
- Type of fat used in preparation?
- Nuts?
- Accompaniments?

I. Muffins
- Kind?
- Prepared from mix, commercial, or scratch?
- Type of fat used in preparation?
- Fruit or nuts?
- Accompaniments?

J. Pancakes and Waffles
- Kind?
- Type of fat used in preparation?
- Fruits, nuts?
- Accompaniments?

K. Tortillas
- Flour (white or whole wheat) or corn?
- Plain or fried?
4. CAKES

- Kind (e.g., yellow, devil's food, white, pound, etc.)?
- Mix, ready-to-eat, or recipe? If recipe, type of fat used in preparation. If mix, oil added in preparation?
- Kind of frosting, glaze, or topping? If made from recipe or mix, type of fat used?

5. CANDY

- Brand name?
- If brand if unknown, get complete description (kind, coating, filling, nuts). If contains chocolate, what kind? Is it a candy bar or individual pieces?
- Size of candy bar (i.e., regular, miniature, etc.)

6. CEREAL

A. Cold (ready-to-eat)

- Brand name (or kind if brand unknown)?
- Plain or presweetened?
- If granola, brand name or was it a recipe? If recipe, type of fat used in preparation. Coconuts or nuts added?
- Accompaniments (i.e., milk, sweetened, fruit)?

B. Hot

- Kind (includes some brand names like Wheatena or Maypo)?
- Flavored?
- Regular, quick cooking, or instant?
- Cooked with water or milk? If milk, what percent fat?
- Cooked with or without salt?
- Accompaniments (i.e., milk, sweetener, fats)?

7. **CHEESE**

A. **Cheese**
   - Brand name?
   - Type (i.e., processed, imitation, natural, cheese food, cheese spread; low sodium, low fat, low cholesterol)?
   - Name (i.e., cheddar, Swiss, mozzarella, etc.)?
   - Form (i.e., sliced, shredded, brick)?

B. **Cottage Cheese**
   - Percent of fat (creamed or uncreamed)?
   - Low Sodium? Low Fat?
   - Additions (i.e., fruit, vegetables, sweetener)?

8. **COMMERCIAL FOOD ENTREES**
   - Brand names?
   - Description of product

9. **CONDIMENTS**
   - Kind (i.e., catsup, mustard, pickles, etc.)? If mustard, regular, Chinese, or horseradish?
   - Low calorie or low sodium?
   - If homemade BBQ sauce, specify fat.

10. **COOKIES AND BARS**
    - Kind and brand name?
- If brand unknown, commercial, mix/dough, bakery, or recipe? If recipe, type of fat used in preparation?

- Nuts, chips, fillings, raisins, frosting or icing?

- Dietetic?

11. CRACKERS

- Brand name (or kind, if brand name unknown)?

- Regular, low sodium, or unsalted, where applicable.

- Accompaniments (i.e., spread, cheese, deli meat)?

12. CREAM/CREAMER

- Kind (i.e., real, imitation)?

- For real cream, ask type (i.e., heavy, light, half and half).

- For non-dairy creamers, get brand name. If unknown, was it liquid/frozen or powdered?

- For whipped cream, get brand name or type (i.e., aerosol, frozen, powder, or recipe). If recipe, get type of cream used. Sweetened or unsweetened? If aerosol or frozen, dairy or non-dairy. If powder, regular or low calorie?

- For sour cream, get type (i.e., regular, half and half, or non-dairy substitute).

13. DESSERTS

A. Pudding/Custard

- Kind (flavor)?

- From dry mix, ready-to-eat, frozen on stick, or recipe? If dry mix or recipe, was it regular or sugar-free? What type of milk was used in preparation?

- Any additions (i.e., bananas in banana pudding, whipped cream)?

B. Gelatin

- Regular or sugar-free?
- Clear or whipped?
- Prepared with cream cheese? Fruit? If fruit, what kind (e.g., canned peaches, fresh banana)?
- Any additions (i.e., whipped cream)?

14. **EGGS**
- How were they prepared (i.e., fried, boiled, scrambled)?
- Fat and salt in preparation?
- Whole egg? White only? Yolk only?
- Brand name of egg substitutes? If brand name unknown, was it liquid or powder?
- Accompaniments?

15. **FAST FOODS**
- Name of fast food chain?
- Food item(s) eaten?
- Additions to food item (i.e., catsup on fries, lettuce or tomato on hamburgers, extra mustard or catsup, etc.)?
- Deletions of "extras" on a food item (i.e., a hamburger without the special sauce.)
- For hamburger and fries, what size (e.g., regular or junior, or regular or large)?
- For soda, what kind (i.e., Coke, Pepsi)? Regular or diet? Small, medium, or large? With or without ice?

16. **FATS**
   A. **Butter**
   - Type (i.e., regular, whipped or butter/margarine blend)?
   - Salted or unsalted?

   B. **Margarine**
- Brand name, if known.
- Type (i.e., whipped, diet, spread, or butter/margarine blend)?
- Form (i.e., stick, tub, or liquid)?
- Salted, unsalted or low sodium?
- Type of oil (e.g., corn, safflower)?

C. Oils

- Brand name or type of oil.

D. Shortening

- Brand name or type of base (i.e., animal, vegetable, or a combination)?

E. Animal Fat

- Kind?

17. FISH AND SEAFOOD

- Kind?
- How was it prepared?
- Fat and salt in preparation?
- Form for some types (i.e., fresh, frozen, canned, smoked, dried)?
- Was anything added before, during or after cooking, e.g., marinade or coating? If marinated, was it a soy sauce or non-soy sauce mixture? If coated, was coating eaten?
- For canned fish, in what was it canned (i.e., oil, water, tomato sauce)? Was the fish drained and/or rinsed? Regular or low sodium?

18. FRUITS

- Kinds?
- Form (fresh, cooked, canned, frozen, dried, juice)?
- For some fruits, with or without skin?
- Sweetened or unsweetened?
- For canned fruit, what type of syrup (i.e., water pack, juice pack, light or heavy syrup)?
- For juice, was it real? If real, what form (i.e., fresh, frozen, or ready-to-drink) and sweetened or unsweetened?
- For cooked fruits, was anything added before, during, or after preparation, e.g., fried apple rings?

19. **GAME**
- Kind (i.e., antelope, rabbit, squirrel)?
- Was fat trimmed or not trimmed?
- How was it prepared?
- Was anything added before, during, or after cooking?
- If venison/deer, what cut?
- If bird (i.e., pheasant, quail, dove), skin eaten or removed?

20. **GRAINS**
- Kind of grain (i.e., rice, barley, bulgur)?
- Type of preparation (i.e., instant, quick, regular)?
- Fat and salt used in preparation?
- Anything added (i.e., gravy, fat)?

21. **GRAVY**
- Kind of gravy (i.e., beef, chicken, mushroom, onion)?
- Prepared from recipe, canned or dehydrated? Prepared with canned soup, skimmed broth, meat juices, or bouillon? If bouillon, regular or low sodium?
- Plain, milk base, or water base? If milk, what percent fat?

22. **ICE CREAM**
- Brand name?
- Type (i.e., regular, ice milk, dietetic, imitation)?
- Form (i.e., regular, soft serve or a stick)?
- Flavor?
- Any additions (i.e., cone, topping, whipped cream, nuts)?
- For milkshakes, flavor and ingredients (e.g., hard ice cream, soft serve ice cream, nondairy fast food "thick shake")?

23. **LAMB**
- What cut?
- Was fat trimmed or not trimmed?
- How was it prepared?
- Was anything added before, during, or after cooking, e.g., marinade or coating? If marinated, was it a soy sauce or non-soy sauce mixture? If coated, was coating eaten?
- Fat and salt added in preparation?

24. **LUNCHMEATS**
- Brand name?
- Kind (e.g., bologna, ham, salami, frankfurter)?
- Meat base (e.g., chicken, beef, pork)?
- Form (e.g., canned, loaf, thin sliced, spread, minced, chopped)?
- Regular or low sodium?

25. **MILK**
- Kind (i.e., white, chocolate, buttermilk, substitute)?
- Type (i.e., whole, 2%, 1%, skim)?
- Form, (i.e., regular, evaporated, dry, condensed)? If evaporated, was it diluted or undiluted?
- Flavorings or additions (i.e., egg, malt, sugar, chocolate)?
- Brand name for milk-based breakfast or diet mixtures.
- For milk substitutes, ask base (i.e., soy-based, filled saturated fat).

26. MIXED DISHES

A. Mixed Dishes
- Name of mixture (e.g., chili, beef stew, macaroni and cheese).
- Recipe or commercial (i.e., dry mix like tuna helper or frozen entrees)?
- Main ingredient (e.g., beef, chicken, noodles, tuna). Obtain information on main ingredient in the manner outlined under appropriate food group.
- Additional ingredients (i.e., vegetables, cheese, sauce, or gravy)? Obtain information as directed above.
- Fat and salt in preparation?
- Any additions?

B. Pizza
- Thin, thick, French bread, or double (piazza) crust?
- Toppings (e.g., pepperoni, cheese, sausage, olives, mushrooms)?

27. NOODLES
- Name (i.e., macaroni, spaghetti, noodles)?
- Type of pasta (i.e., white, wheat, spinach, egg)?
- Fat and salt in preparation?
- Any additions after cooking?

28. NUTS AND SEEDS

a. Nuts
   - Kind
   - Type (i.e., raw or blanched; dry, oil, honey roasted; sugar or chocolate coated, or a nut butter)?
   - Salt or unsalted?
   - Nut mixture (e.g., mixed with dried fruit)?

b. Seeds
   - Kind?
   - Salted or unsalted?
   - Whole (unshelled) or kernels (shelled)?
   - Type (i.e., raw, dry or oil roasted)?

29. ORGAN MEATS
   - Name and from what animal (e.g., beef liver or pork brains)?
   - Was fat trimmed or not trimmed?
   - How was it prepared?
   - Was anything added before, during, or after cooking?
   - Fat and salt added in preparation?

30. PIES

A. Pies/tarts
   - Kind (e.g., apple, lemon, chocolate)?
   - Single or double crust?
- Regular or individual size?
- Prepared at home or commercially prepared?
- Type of fat used in crust?
- Type of fat used in filling (if appropriate)?
- Additions (i.e., meringue, whipped cream, ice cream, cheese)?

B. Turnovers

- Baked, fast food, or fried? If fast food, get name of establishment. If baked, get flavor. If fried, get type of fat used in frying? Prepared commercially or at home. If commercial, get brand name (e.g., Hostess).

Cobblers/crisps

- Flavor?
- Type of topping (i.e., streusel, pastry, biscuit)?
- For cobbler, type of fat used in topping? For crisps, type of fat used in recipe?
- Additions, (e.g., ice cream, cheese, whipped cream)?

31. PORK

- Was it a steak, roast, chop, or ground?
- What cut?
- Was fat trimmed or not trimmed?
- Fresh or cured?
- How was it prepared?
- Was anything added before, during, or after cooking, e.g., marinade or coating? If marinated, was it a soy sauce or non-soy sauce mixture? If coated, was coating eaten?
- Fat and salt added in preparation?
32. **POULTRY**

- What part of it light or dark meat?
- How was it prepared?
- Was anything added before, during or after cooking, e.g., marinade or coating? If marinated, was it a soy sauce or non-soy sauce mixture? If coated, was coating eaten?
- Fat and salt added in preparation?
- Cooked with skin or without? If with skin, skin eaten or not eaten?

33. **SALAD DRESSING**

- Brand name or kind if brand if unknown?
- Commercial or homemade? If homemade, type of fat used in preparation?
- Low calorie? Low sodium?
- Clear, creamy, or tomato base?

34. **SALADS**

A. **Tossed**

- Major ingredients (i.e., lettuce, spinach)?
- Raw, cooked, canned, or marinated? If cooked, from fresh or frozen? If canned, regular or low sodium?
- For cooked, marinated, and canned, get fat and/or salt used in preparation.
- Additional ingredients (i.e., dressing, cheese, croutons, bacon bits)?

B. **Fruit Salad**

- Kind of fruit?
- Fresh, frozen, or canned?
- With dressing? What kind (mayo-type, whipped cream, etc.)
- Additional items (i.e., nuts, cream cheese)?

C. Other Salads
- Type, (i.e., tuna, macaroni, egg, potato, coleslaw)?
- With or without eggs?
- Major ingredients (i.e., meat, cheese, etc.)? Obtain information on main ingredient in manner outlined under appropriate food group.
- Type of fat used in preparation?

35. SAUCE
- Name (i.e., Bearnaise, cheese, hollandaise, steak, soy, spaghetti)?
- Homemade or commercial, where applicable?
- Ingredients, where applicable (i.e., meat or meatless spaghetti sauce, green or red enchilada sauce, or salsa)?
- Type of fat used in recipe?
- Regular or low sodium, where applicable (i.e., soy or tomato sauce)?

36. SAUSAGE
- Brand name?
- Pork, beef, or other?
- Fresh, smoked, or brown and serve?

37. SNACKS
- Brand name for cheese puffs, corn chips, microwave-type popcorn, granola bars, potato chips, party-type mixes and tortilla chips. Otherwise, ask name of item (e.g., cornuts, pretzels, etc.)?
- Salted or unsalted?
For popcorn, method of preparation and whether plain, cheese flavored, or coated? If popped in oil, get type of oil. If commercially popped, was it "buttered" (butter-flavor) or not "buttered"?

Any additions such as dip or salsa to chips or butter and salt to popcorn?

38. **SOUP**

- Kind (e.g., onion, mushroom, asparagus, chicken noodle)?

- Form (i.e., canned, dry mix, homemade)? If canned, regular, chunky, or low sodium? If condensed, diluted or undiluted? If diluted, what liquid was used? If milk, specify percent fat.

- For cream soups, type of fat in preparation?

- Any additions (e.g., crackers, croutons, etc.)?

39. **SPECIAL FORMULATED PRODUCTS**

**A. Bar/Wafer**

- Brand name?

- Kind (breakfast bar, diet meal, high protein)?

**B. Drink**

- Brand name?

- Kind (i.e., fluid/electrolyte replacement solution, low calorie gelatin beverage, low or high calorie milk beverages, meal replacement drink)?

- For low calorie milk beverages, was it canned or prepared from a powder? What flavor?

- For meal replacement drink, was it gelatin, milk, or soy based? High protein? Predigested protein?

**C. Protein Supplement Tablet**

- No further probing necessary.
D. Dry Unprepared Powder

- Brand name?

- Kind (e.g., instant breakfast, high calorie, meal replacement, nutrient supplement, protein supplement)?

- For instant breakfast, was it regular or sugar free? What flavor?

- For meal replacements, was it diet (and fortified)? If so, what flavor? If not was it a gelatin base, soy based with herbs, or was it high protein (milk based)?

- For nutrient supplements, was it regular or low calorie?

- For protein supplements, was it a beverage? If so, was it regular or sugar free? If not, was it low calorie, low lactose, milk or soy based or sodium controlled?

- Reconstituted with what type of liquid? If milk, specify percent fat.

40. SWEETENERS

- Kind of sweetener?

- For jams, jellies, and preserves: regular, low sugar, or dietetic?

- Types of sugar (i.e., white, brown, powdered)? If brown, was it crystal or liquid?

- Type of syrup (i.e., pancake, pure or mixture)? If pancake syrup, was it regular, low calorie, diet, maple flavor, buttered blend, or fruit flavor? If pure mixture, specify base(s).

- Brand name of artificial sweetener? If unknown, specify whether saccharin or aspartame; liquid or dry?

41. VEAL

- Was it steak, roast, chop, or ground?

- What cut?

- Was fat trimmed or not trimmed?

- How was it prepared?
Was anything added before, during, or after cooking, e.g., marinade or coating? If marinated, was it a soy sauce or non-soy sauce mixture? If coating, was coating eaten?

Fat and salt added in preparation?

VEGETABLES

Kind?

Form (i.e., raw, cooked, canned, or dehydrated)? If raw, was the vegetable plain or marinated? If cooked, from fresh or frozen? If canned, regular or low sodium?

Method of preparation?

Fat and salt in preparation?

Anything added before, during or after preparation (e.g., fat, cream sauce, sour cream)?

For potatoes, eaten with or without peel?

For juices, kind? Was the juice regular or low sodium (as in tomato juice)?

YOGURT

Brand name?

Type (i.e., plain, fruited, flavored, with fruits and nuts, or frozen? If frozen, get form (i.e., sandwich, on a stick, coated bar) or flavor?

Made from whole, low fat or nonfat milk?

Any additions (e.g., toppings, sweeteners, or fruit).
# Appendix 4 - The Strong Heart Study III

## Dietary Intake - 24-Hour Recall

<table>
<thead>
<tr>
<th>Participant's ID Number (SHS)</th>
<th>Date of Visit</th>
<th>Social Security Number</th>
<th>Date of Birth</th>
<th>Sex:</th>
<th>1=Male</th>
<th>2=Female</th>
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**Participant's Name**

**Intake Day**

1=Sun  
2=Mon  
3=Tue  
4=Wed  
5=Thu  
6=Fri  
7=Sat  

**Interviewer's opinion of information**

1=Reliable  
2=Unable to recall one or more meals  
3=Unreliable for other reasons  

**Was amount eaten**

1=Typical  
2=Considerably less than usual  
3=Considerably more than usual  

**Did you take any supplements (vitamins, minerals, etc)?**

1=No  
2=Yes  

(if "Yes", describe under Food and Beverage, below)

**Place of interview:**

1=Clinic  
2=Home

---

**Explain starred (*) items in the COMMENTS space provided below**

<table>
<thead>
<tr>
<th>Line No.</th>
<th>Time eaten</th>
<th>Salt added in preparation?</th>
<th>Food and Beverage</th>
<th>amf.</th>
<th>Was fat added in preparation?</th>
<th>Complete Description</th>
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**COMMENTS (Give line no. when appropriate):**
2. QUALITY OF LIFE INTERVIEW

The objective of this study is to evaluate the Strong Heart Study participant’s day-to-day functioning and well-being. The significance of this study can be summarized as following:

1. That there are needs and interests of obtaining data in regard to the quality of life in a population with a great burden of chronic conditions\textsuperscript{1,2,3,4,5}, and there is virtually no information about the quality of life in the Indian population.

2. With the amount of data that Strong Heart Study has collected, such as information about heart disease, hypertension and its treatment, diabetes and its control, use of medications, echocardiogram, pulmonary function, gallbladder, dietary intake, and various lab measurements, the potential use of the quality of life data is tremendous.

3. Through data linkage, the information collected from this study can be linked to the IHS database, thus providing the opportunity to study the quality of medical care outcomes.

4. The Strong Heart Study may be the first large-scale epidemiologic study, not only in the American Indian population, but also in the general population, which includes about 40\% of healthy subjects to assess the quality of life and provides invaluable baseline data for other or future studies to compare with\textsuperscript{14}.

The potential contribution of the study of the quality of life may become one of the most interesting and important findings to the Indian community, its health providers, and health policy makers.

The Medical Outcome Study (MOS) 36-ITEM SHORT-FORM HEALTH SURVEY (MOS SF-36, appendix 5) questionnaire will be used in this study to collect the data. Originally the questionnaire was developed by the RAND Corporation for the Medical Outcome Study (MOS), and later being condensed and standardized by Ware and Sherbourne (1992). The MOS SF-36 contains 36 questions which covers eight areas, physical functioning, role limitations due to physical problems, social functioning, bodily pain, general mental health, role limitation due to emotional problems, vitality, and general health perception. It was designed as self-administer questionnaire, and should not take more than five minutes to complete. If scoring slightly differently, the results can be compared with data collected by the RAND 36-ITEM HEALTH SURVEY 1.0.

The reasons the Rand 36-item Health Survey 1.0 was chosen as the tool to collect the data are based on the following reasons.

1. It is a generic (nondisease-specific), multi-item scale measuring each of eight health concepts: 1) physical functioning; 2) role limitations because of physical health problems; 3) bodily pains; 4) social functioning; 5) general mental health (psychological distress and psychological well-being); 6) role limitation because of emotional problems; 7) vitality
(energy/fatigue); and 8) general health perceptions. Most of these items have been adapted from instruments that have been used for 20 to 40 years or longer\textsuperscript{3,7,8,9}, and all the items have been validated by various groups\textsuperscript{3,7,8,9}.

2. The form is designed for self-administration, telephone administration, or administration by personal interview. It has been applied to general public\textsuperscript{3}; participants who attended primary care facilities\textsuperscript{7,9}; elderly low-income veterans\textsuperscript{10}; patients with diabetes\textsuperscript{11}; and patients who received hip replacement\textsuperscript{12}. The age of participants ranged from 16 to over 80 years old. The response rates were about 85\% in two of the studies administered by mailing the questionnaire to the participants\textsuperscript{8,11}, and over 95\% of the respondents completed the questionnaire in one of the studies\textsuperscript{9}. The average time to administer the questionnaire was 15 minutes for elderly veterans\textsuperscript{10}, while it took about 5 to 10 minutes for younger participants\textsuperscript{6}. The questionnaire also has the precision to detect the difference of health status due to the different levels of severity of chronic medical conditions\textsuperscript{7}, due to the control of disease\textsuperscript{11}, or due to the treatment of medical conditions\textsuperscript{12}.

3. The scoring system of the questionnaire is straightforward. All measures were scored on a scale of 0 to 100, with a higher score indicating a more favorable health status. First, assign this numeric score to each of the questions according to the answer chosen by the participant\textsuperscript{13}. This score, between 0 and 100, represents the percentage of the total possible score achieved. Second, items in the same scale (i.e., each of the eight health concepts) are averaged together to create the scale scores; thus, eight scale scores will be created. Since the scores are treated as continuous variables, most of the parametric statistical methods can be used for data analysis. The eight scales can be analyzed individually or combined into different categories, depending on the purpose of the studies.

References


Please see Operations Manual
Volume II Appendix D-12 or Appendix E-10
for Quality of Life Questionnaire
3. CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE (CES-D) (Oklahoma Center SHS-I Cohort Only)


Depression and Health A vast research literature exists establishing to varying extents the relationship between depression and health. Measurements of depression can be useful to assess the association of depressive symptoms with health risk behavior, prevalence and incidence of cardiovascular disease, and also to evaluate the effect of health status or CHD on mood states.

Assessment of Depression The CES-D was designed to measure current level of depressive symptomology, and especially depressive affect. The CES-D has been established as the "standard" for brief assessment of depression, i.e., in large scale epidemiological studies.

CES-D Utilized by Similar Studies The CES-D is the standard scale used in numerous large scale studies including the Honolulu Heart Program, the Inter-Tribal Heart Project (Menominee, Red Lake & White Earth), Cardia, and the Stanford Coronary Prevention Project.

Reliability and Validity The CES-D has been found to both adequate test-retest reliability, and internal consistency. The internal reliability (Cronbach's Alpha) of the CES-D is .89.

Administration Designed for self-administration, or interview format.

Scoring Twenty items are rated on a 4 point likert scale, ranging from "rarely, or not at all" scored as 1, to "most of the time" scored as 4. Four items are reversed when scored: #'s 5, 9, 13, and 17 so that 1 and 2 scores are changed to 4 and 3 respectively (and vice versa). Item scores are then summed for a total depression score (the higher the score, the greater the depression). Item #21 is not a part of the CES-D scale, and so should be scored separately.

Score Interpretation Upon completion of the survey, a staff member will sum the item scores, taking into account the reverse scored items. If the total score of items # 1-20 is above the CES-D cutoff score for indication of depression, the staff member is to ask the participant if they are interested in a referral for follow-up. The staff member then notes in the chart that the verbal offer of a referral had been given to the participant.
THE STRONG HEART STUDY III

CES-D SCALE
(Oklahoma Center SHS-I Cohort Only)

SHS ID Number:  |||||

1. How is this questionnaire administered?

   [ ] 1=By interviewer    [ ] 2=By self    [ ] 3=Refused

Here are some questions (Q2-Q22) about your feelings during the past week. For each of the following statements, please respond as to whether you felt that way: Rarely or Not At All, Some of the time, Often, or Most of the time.

During the past week . . .

<table>
<thead>
<tr>
<th>Question</th>
<th>Rarely or Not at ALL</th>
<th>Some 1-2 days</th>
<th>Often 3-4 days</th>
<th>Most of the Time 5-7 days</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. I was bothered by things that don't usually bother me.</td>
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<td>3. I did not feel like eating; my appetite was poor.</td>
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<td>4. I felt that I could not shake the blues even with help from my family or friends.</td>
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<tr>
<td>5. I felt that I was just as good as other people.</td>
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<tr>
<td>6. I had trouble keeping my mind on what I was doing.</td>
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<tr>
<td>7. I felt depressed</td>
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<td>8. I felt that everything I did was an effort.</td>
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<tr>
<td>9. I felt hopeful about the future.</td>
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<td>10. I thought my life had been a failure.</td>
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<tr>
<td>11. I felt fearful.</td>
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<td>12. My sleep was restless.</td>
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<tr>
<td>13. I was happy.</td>
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</tbody>
</table>
For each of the following statements, please respond as to whether you felt that way: Rarely or Not At All, Some of the time, Often, or Most of the time.

During the past week . . .

<table>
<thead>
<tr>
<th></th>
<th>Rarely or Not at ALL</th>
<th>Some 1-2 days</th>
<th>Often 3-4 days</th>
<th>Most of the Time 5-7 days</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>People were unfriendly.</td>
<td>![ ]</td>
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</tr>
<tr>
<td>20.</td>
<td>I felt that people disliked me.</td>
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<td>![ ]</td>
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</tr>
</tbody>
</table>

For Question 22, please use the following scale:

<table>
<thead>
<tr>
<th></th>
<th>Rarely or Not at ALL</th>
<th>Some 1-2 days</th>
<th>Often 3-4 days</th>
<th>Most of the Time 5-7 days</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.</td>
<td>I have felt depressed or sad in this past year.</td>
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<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
</tbody>
</table>

23. Interviewer's code

24. Date completed (mo/day/yr)