

**CONTINUING SURVEY OF FOOD INTAKE BY INDIVIDUALS (CSFII) METHODOLOGY DATA  
COLLECTION: TRAINING AND MONITORING INTERVIEWERS****Suzanne McNutt, Martha Berlin, Judith Meader**  
**Westat, Inc., Rockville, MD****ABSTRACT**

*A variety of methods used to train and monitor the field interviewers contributed to the successful collection of dietary intakes for the CSFII 1994-96. Westat, Inc. Which conducted the survey under contract to the USDA, recruited and trained 82 interviewers and 5 supervisors in a 7-day in-person session in January, 1994. The data collection staff were recruited based on two principles. First, achieving the response rates required by the contract was dependent on the skills of interviewers experienced in gaining respondent cooperation and maintaining rapport over several interviews. Second, if the survey documents were standardized and the prospective interviewers were extensively trained on how to use the materials correctly, lay interviewers could collect high quality data. In particular, a concerted effort was made to standardize the Food Instruction Booklet (FIB), an interviewer tool consisting of detailed probes for the interviewers to conduct the Intake interview. Westat's basic approach to training was to use a variety of techniques to help the interviewers learn and to keep them actively involved in the training. Some of these techniques included a home study, a demonstration interview, interactive lectures, exercises, role plays, mock interviews, practice interviews with paid respondents, and a final review to answer questions and reiterate complex concepts. Monitoring the quality of the interviewers work is an on going primary responsibility for Westat, Inc. Extensive feedback was provided to interviewers during training the throughout the data collection period. Regional supervisors reviewed practice interviews, listened to taped interviews, conducted in-field observations of the interviewers at work, and performed validation procedures to confirm that interviews had been conducted. In addition, an extensive quality review was completed on the questionnaires when they were receipted in the home office and interviewers received feedback on the results of this review on a weekly basis.*

Westat, Inc. serves as the contractor for the USDA Continuing Survey of Food Intakes by Individuals, 1994 - 96. As part of our contract we trained the interviewers to collect the dietary data and are continually monitoring the data collection effort. Two principles underscored the recruitment of data collection staff for the CSFII: lay interviewers rather than nutritionists or dietitians would be hired; and Westat's files of 4,000 supervisors and interviewers who work directly for Westat would serve as the primary recruiting resource.

There were also specific qualifications we were looking for. First, and foremost, we wanted interviewers with extensive interviewing experience, particularly experience on large, national surveys. In person interviewing is not for the timid. You never know what's going to happen when you knock on that door. For instance, a Los Angeles interviewer rang the doorbell, but got no response. Since it was a nice day, she thought the family might be in the back yard, but knew better than to charge back there. So, she cautiously walked down the side of the house calling "hello." She was pleasantly surprised when the "hello" was returned. She introduced herself as she walked around back. Imagine her surprise when she found herself talking to a

parrot! And the adventures don't stop at the door. Two of our interviewers have had experiences with reptiles roaming around the floor and table as they completed the Intake.

A second important criterion was the ability to gain respondent cooperation and maintain rapport. In addition we looked for interviewers who had excellent reading and math skills, experience in buying, planning, and preparing food, and basic knowledge of food measurement and preparation. A nutrition background was not necessarily a criterion used to recruit interviewers. Rather, we believed that if the survey documents were standardized, and we extensively trained the interviewers on how to use the materials correctly, lay interviewers could collect high quality data just as they do in other surveys conducted by Westat and ARS. In particular, we made a concerted effort to standardize the Intake Questionnaires and Food Instruction Booklet.

### Interviewer Qualifications

- ↳ Interviewing experience
- ↳ Skills to gain respondent cooperation
- ↳ Excellent reading and math skills
- ↳ Experience in buying, planning, and preparing food
- ↳ Basic knowledge of food measurement and preparation

### Measures Taken to Collect High Quality Data

- ↳ Standardized all data collection documents
- ↳ Extensively trained on dietary data collection to ensure materials were used correctly

The Food Instruction Booklet, commonly known as the "FIB", is an interviewer tool consisting of detailed probes for the interviewers to use during the Intake interview. A version of the FIB has been used by USDA to collect data in individual intake surveys since the 1977-78 Nationwide Food Consumption Survey. Interviewers use the FIB to guide respondents in providing complete information about foods and quantities consumed.

The FIB is a unique and valuable tool in food consumption survey research because it provides interviewers with specific probes for reported foods. It is written to a level of specificity that is directly linked to food descriptions and quantities in the USDA food coding database. In addition, the FIB specifies exactly which probes should be asked for a particular food. The quality of the data collected by the interviewers can be closely monitored by comparing the data collected on the Intake Questionnaire, with the FIB. Specific feedback on the quality of the data they are collecting can be provided to the interviewers.

Several major revisions were made to the FIB for the CSFII 1994-96 to collect more complete and standardized data. The revisions included increasing the food specificity by expanding the number of food categories from 12 to 16 and making the document more user-friendly by adding a Table of Contents, that included examples of recording conventions, and a list of acceptable abbreviations. In addition, the layout was revised. Icons were included that served as a visual cue to interviewers to collect home recipes, sandwiches, salt, fat, and additions. These icons are reminders to the interviewers that more specific coding guidelines can be found in the General Instructions.

When possible the food probes were standardized across categories. The probe TYPE at the top of the page, and ADDITIONS at the bottom can be found in every food category where appropriate. The probes for *If Frozen, If Ready to Eat, If Commercially Canned, and If Home Recipe* are specific to the Spaghetti category shown in this slide as well as a few other food

categories. Skip patterns were built into the format to move the interviewers through the FIB quickly. For example, in this category, if a respondent reported consuming a commercially-canned spaghetti product, the interviewer would go to "IF COMMERCIALY CANNED" and ask the Brand and whether it came with Meat, and then skip to ADDITIONS.

### Food Instruction Booklet (FIB)

- ↳ Specific probes for reported foods
- ↳ Directly linked to food descriptions and quantities in USDA food coding database
- ↳ Allows quality of data to be closely monitored

### Interviewer Training

- ↳ 82 interviewers
- ↳ 7 day in-person training session
- ↳ Trainees divided into 5 small learning groups
- ↳ Spanish materials training for 10 bilingual interviewers

Supervisors who served as trainers were trained in an 8-day session held prior to interviewer training. During this trainer training, emphasis was placed on controlling the group since interviewers are notoriously extroverted and eager to jump ahead. Interviewer training was conducted in Dallas, Texas in January 1994. Eighty-two interviewers were trained in a 7 day in-person session. To facilitate the learning process, the interviewers were divided into 5 groups called "communities," averaging 16 interviewers each. At the conclusion of the 7-day session, 10 bilingual interviewers received an additional day of training on the Spanish language questionnaires and materials.

### Training Approach

- ↳ Experienced trainers
- ↳ Trainee involvement and participation maximized
- ↳ Thoroughly scripted training materials
- ↳ Scripts built in complexity

### Training Techniques

- ↳ Home study
- ↳ Demonstration interview
- ↳ Interactive lectures
- ↳ Mock interviews
- ↳ Role plays
- ↳ Paid respondents
- ↳ Food and volumetric displays
- ↳ Exercises
- ↳ Plenary review

Westat's basic approach to the training was to use experienced trainers who were skilled in presenting before a group. Trainee involvement and participation were maximized to provide ample opportunity for supervisory staff to observe and evaluate trainee performance.

An 1100 page training manual that contained scripted materials was developed to ensure standardization among trainers. The scripts were designed to provide situations that the interviewers were likely to encounter. As the training progressed the training scripts built in complexity.

Westat made every attempt to create an atmosphere in the training rooms that was conducive to learning -- friendly, open, and professional. There was an expectation that the trainees would be able to handle the task ahead, and that they possessed the skills necessary to complete a complex interview. We tried to convey the attitude that the survey was important and so was their role. The importance of collecting information correctly was emphasized.

A variety of techniques held the interviewers' attention and helped them to remember the lessons. These techniques included a home study, a demonstration interview, interactive lectures, mock interviews, role plays, practice interviews with paid respondents, food and volumetric displays, exercises, and a plenary review at the end of training.

### Home Study

- ↳ Procedural manual, FIB, and exercises were mailed to interviewers prior to training
- ↳ Interviewers were required to complete exercises and bring them to training for supervisory review and feedback

### Demonstration Interview

- ↳ One trainer played the part of the interviewer and the other the part of the respondent
- ↳ Trainers used all the tools needed to conduct an Intake interview

CSFII project specific training began with a home study packet sent to each trainee prior to training. The packet included the field procedures section of the interviewer manual, the FIB, and a set of exercises. The interviewers were required to read the material and complete the exercises, and then bring them to training for review by supervisory staff. Prior to the conclusion of training, the graded exercises were returned to the trainees and feedback was provided. At the beginning of Intake training, the measuring guides were handed out to the trainees. They were excited to get these because during the homestudy they were anxious about how they were going to collect the quantifying information. They were trained that the cups and spoons would be used for volume of foods; the ruler for length, width, and the height of foods; and the sticks for the thickness of meat poultry, and cheese. An interviewer reported that after laying out the measuring cups for a female respondent her husband came into the room and exclaimed, "these are the smallest cooking pots I've ever seen."

A demonstration interview was presented to introduce the interviewers to the correct way to administer an Intake. One trainer played the part of the interviewer, and another the part of the respondent. The trainer playing the part of the interviewer used all the tools needed to conduct the interview, including the measuring guides, the FIB, handcards, and "real" food products. The demonstration provided trainees with a general sense of the flow of the interview.

Another technique Westat employed was to present the information in an interactive lecture format, as simply and logically as possible. The lectures presented the basic concepts. A trainee would act the role of the interviewer while the trainer played the respondent. In this way the trainer would go through an interview, frequently stopping to emphasize an instruction, procedure, or question specification, and all the trainees would have a chance to participate at some point.

For example, the trainer stopped the scripted lecture to demonstrate the correct way to use the 2-cup measure. The 2-cup measure is used by the interviewer to measure an amount consumed from the respondent's own cup or bowl which is usually obtained from the kitchen

cupboard. In this instance, the trainer explains that the trainee playing the part of the interviewer should have the respondent fill his cup with water to the level consumed. Now the trainer demonstrates that the interviewer should pour the water in the respondent's cup into the 2-cup measure and then documents in the Intake questionnaire the amount consumed.

### Interactive Lectures

- ↳ Presented basic concepts
- ↳ Trainees acted the role of interviewer while trainer played the respondent
- ↳ Trainer frequently stopped to emphasize instructions, procedures, or question specifications

### Mock Interviews

- ↳ More complex scripts
- ↳ More hands-on practice using food labels, packages, and measuring guides
- ↳ Trainers closely monitored interviewer performance

Written exercises were administered to reinforce complex concepts in the interactive lecture sessions. The exercises were used to practice the concepts and to give the trainees an opportunity to practice on their own. As an example, the procedure for collecting descriptive information about sandwiches is relatively complex and requires practice. A significant amount of time was devoted to training on this concept.

More complex scripts were written for mock interviews. A typical interviewing setting was created in the training room and the trainees were asked, in turn, to play the part of the interviewer. For the mock interviews the trainees were required to use measuring guides, food labels, and packages to conduct the interview. This allowed the trainers to closely monitor an interviewer's performance. As realistic as we try to make the mock interviews, there is no way we can anticipate what the interviewers will encounter. During the training, a variety of food items and different types of packages were arranged on a table at the front of the room.

They were used by the trainer throughout the training to provide the interviewers with a realistic experience of the process of asking respondents to show them the food products reported as consumed. For example, a respondent may report consuming fat-free peanuts, but when he provides the requested container, the interviewer determines from the package that he actually consumed low-fat peanuts.

Cups, glasses, and bowls were also displayed in the training room. This display served to remind the trainees that cups, glasses, and bowls come in many different sizes and when interviewing they must follow the FIB procedures to get accurate quantity information. A cup of coffee served in a cup may not be the same amount of coffee served in a mug. The trainees were required to use these utensils to collect volumetric data during training.

Scripted role plays were developed to give the trainees practice in completing an entire interview. The trainees were paired together by the field supervisors, who generally placed a strong interviewer with a weaker one. The weaker interviewer played the respondent in the first script. Westat's experience has shown that pairing in this way allows the less proficient interviewer to learn from the stronger one.

Using a script, one trainee played the part of the respondent, while the other played the part of the interviewer. When they reversed roles, one of the trainees became an actual respondent and provided her intake for the past 24 hours. This exercise allayed the trainees'

fears that the respondent would not be able to recall all the food they had consumed the day before the interview. The training staff observed the interviews and corrected and answered questions as needed.

### Role Plays

- ↳ One trainee played the part of the respondent using a script and the other played the part of the interviewer
- ↳ Training staff observed and corrected as needed

### Paid Respondents

- ↳ "Live respondents"
- ↳ Unscripted
- ↳ Each interviewer conducted a complete interview

To culminate three days of Intake training, a paid respondent's practice session was conducted. This provided the trainees an opportunity to interview "live respondents" whose recall data was not scripted. Persons were recruited from the local population and paid a nominal incentive for participation. They were unaware of the nature of the interview when they were recruited.

The trainees were arranged at long tables in groups of four. Over a period of 4 hours, four live respondents were interviewed by the trainees in each group. Each trainee in the group conducted one interview while the other three trainees recorded the information. The "live respondents" interviewed by each group included two adults, one child between 6 and 11 years old, and a proxy for a child under 6 years old.

At the beginning of training the interviewers were concerned about the ability of children between 6 and 11 years to provide adequate dietary information. However, after this experience they were convinced that children would take this task very seriously and could recall their intakes in a thoughtful and accurate manner. This experience was invaluable because it was an unscripted, realistic situation and, by all accounts, was a very beneficial practice for the interviewers.

Finally, Westat conducted a plenary session on the last day of training. At this time all previously unanswered questions collected during the preceding days were addressed. All decisions made by ARS and/or Westat were presented to the interviewers, all remaining questions from the floor were answered, and any particularly complex concepts or procedures were reviewed. For example, we demonstrated how to collect information about sandwiches by putting together an actual sandwich in front of the whole group. We followed the FIB probes for sandwiches step-by-step starting with the bread. We added the spread, the meat, cheese, lettuce, and tomato. This brought the probes "to life" for the interviewers.

Once data collection was underway, monitoring the quality of the interviewers' work became a primary responsibility for Westat. Our experience has shown that ample feedback to the interviewers during training and as they begin interviewing helps the interviewers produce high quality data. In addition, monitoring and retraining, when necessary, throughout the data collection period reinforces concepts and procedures necessary to maintain the collection of high quality data.

## Plenary Review

- ↳ Reviewed decisions made by ARS
- ↳ Answered remaining questions
- ↳ Provided a final review of particularly complex concepts or procedures.

## Monitoring

- ↳ During training
- ↳ Prior to beginning the interviewing assignment
- ↳ During data collection

As mentioned earlier, during in-person training, the trainees completed exercises specific to each topic. The exercises were reviewed by the trainers and feedback was provided. In addition, feedback on the role plays and paid respondent practice was given to each trainee.

Immediately after training the interviewers were required to complete a scripted interview by telephone with their field supervisor, and complete two practice interviews with neighbors or family members prior to starting their interviewing assignment. The supervisors provided feedback to the interviewers and retraining, if necessary.

## Monitoring During Training

- ↳ Exercises specific to each topic
- ↳ Feedback on role plays and paid respondent practice

## Monitoring Prior to Beginning the Interviewing Assignment

- ↳ Mock scripted interviews
- ↳ Practice interviews

Westat has put in place a number of measures to monitor and retrain the interviewers during the data collection process. Prior to coding, the food coders perform a quality review of every Intake questionnaire received at Westat, and document errors and omissions. The field director reviews the Quality Review forms and forwards them to the field supervisors. This feedback is provided by the field supervisors during their weekly report calls with the interviewers.

Validation interviews are conducted to verify that an interview had been conducted at the assigned address according to survey procedures. Tape recorded interviews are listened to by the supervisors, the field director, and the staff nutritionist to monitor the quality of each interviewer's work. Each interviewer is evaluated prior to forwarding the tapes to ARS. The evaluation focuses on ensuring the questions and food probes are asked as they were trained. Feedback and retraining, as needed, is provided to the interviewer.

In-person observations are conducted on an ongoing basis. Westat's field director, field supervisors, and ARS staff make in-person observations of interviewers at work. Observation forms are completed for each observation conducted and the results are shared with the interviewers. Training quizzes are developed and conducted periodically for continuing education. These quizzes are used to assess the interviewers' understanding of complex areas of the questionnaires that are sources of common interviewer errors. Training quiz topics specific to the Intake include recording sandwich information, quantifying foods with dimensions, and recording foods that are additions to foods with additions. A favorite question on the additions quiz is how do you record chocolate syrup added to milk which was then added to cereal? This is a favorite kid food! The supervisors provide retraining on the questions that the interviewers handle incorrectly in the quizzes.

### Data Collection: Monitoring the Quality of Data Collected

- ↳ Quality review form is completed for each Intake
- ↳ Validation interview
- ↳ Taped interviews
- ↳ In-person observations
- ↳ Training quizzes

### During Data Collection: Vehicles Used to Provide Feedback and Retrain

- ↳ Supervisors' weekly telephone report calls
- ↳ E-Mail for situations requiring immediate resolution
- ↳ Field staff memos
- ↳ Quarterly newsletters

Several vehicles are used to provide feedback and retraining. The primary vehicle is the supervisors' weekly telephone report calls to the interviewers. The interviewers have been provided with laptop computers loaded with the field management system software developed for CSFII by Westat. The system provides supervisors with productivity data which becomes the basis for the weekly call between the supervisor and interviewer. These weekly conferences also offer the supervisors an opportunity to provide feedback and retraining to the interviewers.

The computers have also been loaded with an E-Mail utility program. E-Mail is used for situations requiring immediate resolution. In addition, training quizzes are often administered via E-Mail. Periodic field staff memos are sent by U.S. mail or occasionally by E-Mail to inform or update interviewers on field procedures.

Westat also distributes a colorful, sometimes humorous newsletter "Food for Thought" which contains helpful advice, discusses common problems, and includes tips and interesting stories from the field. In addition, the ARS column of the newsletter which is titled "And Now a Word From Our Sponsor," keeps the interviewers informed on survey results.

Finally, Westat conducts an annual debriefing and refresher training to gain input on the interviewing experience from the interviewers and to retrain concepts as needed. In anticipation of the in-person debriefing, interviewers receive a questionnaire to capture their reactions to and experiences with a variety of survey materials and procedures. Included are questions about working with the FIB and measuring guides, obtaining label information, conducting interviews with child respondents, and related issues. All suggestions are taken into consideration for revising materials and procedures for the following survey year.

## Annual Debriefing and Refresher Training

- ↳ Debriefing questionnaire
- ↳ In-person debriefing
- ↳ Refresher training

In conclusion, conducting the 24-hour recall Intake interview for CSFII 1994 - 96 is a very detailed and complicated process. A carefully constructed, well organized, and thorough training and monitoring program for the interviewers has played an essential part in the collection of high quality data.