

PROTOTYPE NOTEBOOK

A. INTRODUCTION

The primary goal of USDA's Food and Nutrition Service (FNS) Food Stamp Nutrition Education (FSNE) is to increase the likelihood of food stamp recipients making healthful food choices consistent with USDA dietary guidance. FSNE is managed and operated by a variety of implementing agencies across and sometimes within states. The specific dietary goals and educational approaches to achieve them also vary substantially. While some components are evaluated by FSNE implementing agencies or local providers, there are no common outcome measures that can be used to track changes by all FSNE providers. To address the need for common measures or indicators of dietary behavior for assessing key dietary behavioral outcomes of the FSNE program, the Economic Research Service (ERS) plans to work with FSNE stakeholders and nutrition education experts to develop a 15-minute core set of questions that are manageable, flexible, and appropriate for use in multiple settings, including local and state monitoring efforts. FSNE is actually a component of the Food Stamp Program and does not have "Program" status itself.

ERS contracted with Mathematica Policy Research, Inc. (MPR) to develop a prototype notebook to be used by an expert panel at an ERS workshop entitled "Developing Common Core Survey Questions to Assess Key Dietary Behavior Outcomes of FSNE: Launching the Research Process." The prototype notebook contains a selection of short questions or sets of questions on dietary intake, knowledge, attitudes, and behaviors, drawn from an extensive inventory and evaluation of available questions. The expert panel will use the selected questions in the prototype notebook as a starting point to develop and test a core set of questions with the FSNE audience.

B. COVERAGE OF TOPICS

Question topics reflect the major areas of emphasis of FSNE interventions, including dietary quality and healthy weight, which are consistent with the USDA Food Guide Pyramid and U.S. Dietary Guidelines. The nine main topic areas are:

- Fruits and vegetables (dark green vegetables, deep yellow/orange vegetables, fruits, 100% fruit juice)
- Grains, legumes, and fiber
- Variety (variety within a Food Guide Pyramid group)
- Fat (fat and saturated fat)
- Calcium food sources
- Nonalcoholic beverages

- Knowledge (diet and health relationships, Food Guide Pyramid servings)
- Attitudes (about diet, health, and a healthy weight)
- Other behaviors (food label reading, shopping practices, breakfast consumption, eating away from home, portion size modification/selection, snack foods, weight loss practices)

The subtopics in parentheses were created to assure the selection of questions was comprehensive. Topics considered outside the scope of this project, as agreed upon by ERS and MPR, were: dietary supplements, alcoholic beverages, awareness of diet and health, food expenditures, food security, pregnancy and folic acid, and physical activity.

C. PROCESS USED TO LOCATE AND INVENTORY QUESTIONS

There were several primary review articles or resources that were used as a starting point in the review (1-13). MPR researchers then reviewed all major national nutrition surveys and state surveillance systems, and conducted searches of the nutrition education and epidemiology literature to identify a wide selection of relevant instruments and potential questions (especially targeting cancer, cardiovascular disease, and osteoporosis). The literature search focused on research publications since 1998 that included U.S. adults 18 years of age and older and/or FSNE or low-income populations.¹ However, project team members reviewed several older surveys that were precursors to more current instruments or to ensure that relevant topics (e.g., healthy weight) were fully addressed.

After locating articles and instruments, it was often necessary to obtain original research articles on survey questionnaire development, many of which were published prior to 1999. In some instances, personal contacts were necessary to obtain a copy of the instrument or additional information on testing of the instrument. Some instruments were derived from other instruments, had the same name as other instruments, or had inconsistent names across sources, providing additional challenges during the project.

After reviewing articles and instruments, questions within the project scope were inventoried (see Appendix A for a list of instruments and coverage of topics). In general, short questions or sets of questions within the topic areas were selected as opposed to traditional dietary intake methods (dietary recalls, diet records, or food frequency questionnaires (FFQs)). Only when questions were severely limited in a topic area were FFQ questions inventoried. Several instruments and questions were reviewed, but not inventoried, as they were primarily used as screening tools or checklists (e.g., Nutrition Screening Initiative, Quick Check for Fat), too long (i.e., more than 6-8 items in a set of questions), or outdated (e.g. National Health Interview Survey Cancer Control Supplement). In addition, some questions or sets of questions

¹One exception was the inclusion of instruments that contained questions to fill content gaps that were only used with children and adolescents, but recommended for use with adults.

could not feasibly stand on their own when separated from the larger instrument, and thus were not inventoried (See Appendix B).

Project team members reviewed questions by critically examining and interpreting the available evidence and data and including this information in the inventory. The inventory incorporated not only the questions, but also the citations, data sources, and characteristics such as question reliability, validity, sensitivity to change, availability in other languages, method of administration, use in populations with low-income and/or low-education levels, relation to nutrition and health outcomes, and availability of comparative data.² To maintain consistency within the project team, MPR developed a standardized set of definitions for the characteristics (See Appendix C). In many cases, information on indicators of reliability and validity was available only for entire questionnaires or subscales within questionnaires, not for individual items. When the information on reliability or validity refers to a larger group of questions, not the specific question under examination, we present the data with appropriate information on level of specificity so the reader can assess its value. Available information was captured in a user-friendly template for use by the expert panel. Due to the emphasis on healthy weight in FSNE efforts, project team members identified questions relating specifically to healthy weight and/or with outcomes related to weight or body mass index in the notes section of the template.

D. PROCESS FOR PRELIMINARY RANKING AND SELECTING RECOMMENDED QUESTIONS

To assist in evaluating the questions, MPR team members developed an approach for standardizing their preliminary ranking. The preliminary ranking is included in the template (see Table 1).

After questions were ranked using the guidelines shown in Table 1, MPR sorted the questions by topic area (with the exception of those that were ‘not ranked’), and used expert judgment to select questions for inclusion in the notebook based on readability, ease and mode of administration, question sequence, question structure or style, and reference period. It was also desired to ensure a balance of questions across and within topic areas (e.g., including questions on a variety of types of fruits and vegetables). When similar questions had a variation in wording, higher priority was given to the most recent question and the question with the most testing or that was derived from an instrument with extensive testing in the target population. Occasionally, senior project staff chose questions with lower rankings based on their judgments about superior readability and ease of administration; however, no ‘low’ ranked questions were included in the notebook. Two senior members of the team independently reviewed the selected questions and achieved consensus on the final selections. The target was to include about 12 questions per topic area in the notebook. For a few topics that cover a broad number of subtopics, MPR included a few additional questions for the expert panel’s consideration.

²Initially, MPR searched for documentation regarding the reading or literacy level of the sample population. This information was not available in any of the reviewed citations; therefore, the analysis focused on the reported education level of the sample population.

E. APPLICATIONS

We reviewed 48 instruments and inventoried 459 questions or sets of questions from 26 of these instruments.³ The final notebook includes 128 questions, including the 13 questions that were not ranked. The most questions were available for the behaviors topic area, whereas the fewest were available for the nonalcoholic beverages topic area. There were several topics or subtopics most in need of research and development based on how few useful questions were found: variety, moderation, portion size and portion control, nonalcoholic beverages,⁴ weight loss and maintenance, whole grains, and snacking related to television watching.

Several issues arose during the course of this project. An individual question or set of questions from an instrument was not always worded consistently in different sources or citations. Along similar lines, response categories were not always in agreement with the question wording. For example, one question asked about the number of servings, but the response categories only included the number of times during specified time periods.

In addition, some questions or sets of questions were not designed to be used or tested independently from the instrument in which they were included. (With this in mind, questions or sets of questions in the notebook and excluded inventory are sorted by topic area, and then alphabetically by instrument within the topic area.) During the selection and field-testing process, the expert panel will need to determine if it is appropriate to include such questions or sets of questions that are taken out of context, and then develop a strategy for handling this issue. In particular, it will be necessary to consider whether questions can be 'pulled out' from their set or module from another instrument and recombined, taking into consideration flow, response categories, and rephrasing needs.

F. THE NEXT STEPS

As the expert panel selects questions for the 15-minute instrument, careful attention must be given to question format, lead-ins, response categories, and reference periods. Questions cannot be selected in isolation but must be considered in the totality of the instrument. Frequent variations in question format, response categories, and reference periods will impede the flow of the instrument and cause confusion for respondents. In some instances, wording revisions to questions will be necessary to improve the internal consistency and ease of administration. For some questions or sets of questions, the project team provided rephrasing suggestions in the "Notes" section of the template.

³Appendix E includes citations for questions.

⁴Regarding nonalcoholic beverages, there were no questions specifically focused on sweetened iced tea consumption, which is a common regional and seasonal sweetened beverage.

TABLE 1

GUIDELINES FOR PRELIMINARY RANKINGS BASED ON USE WITH
THE FSNE POPULATION, EVIDENCE OF TESTING, AND
NUTRITION OR HEALTH OUTCOMES

Preliminary Rank	Guidelines
Ideal	<p>This question has been used in national or state surveys and/or with the food stamp population.</p> <p>This question has had some testing, showing either reliability or internal validity.</p> <p>This question is related to a nutrition or health outcome.</p>
High	<p>This question has been used in a national or state survey and/or with the food stamp population.</p> <p>This question has had some testing, showing either reliability or internal validity,</p> <p style="text-align: center;">OR</p> <p>This question is related to a nutrition or health outcome.</p>
Medium	<p>This question has been used in a national or state survey or with the food stamp population, with little or no testing,</p> <p style="text-align: center;">OR</p> <p>This question has been used with a local population with some testing.</p>
Low	<p>This question has not been used in a national or state survey or the food stamp population.</p> <p>This question has not had any validity or reliability testing.</p>
Not ranked	<p>This question was requested by the client for inclusion in the notebook to expand available questions on healthy weight. Since this question did not undergo the same intense review of testing and outcome criteria as other questions, it is not ranked.</p>

NOTE: The instrument sources of ‘not ranked’ questions are provided in Appendix D. This review of testing goes beyond cognitive testing.

REFERENCES

1. An C, Hersey J, Richa N. A compendium of data resources for planning and assessing state and community-based nutrition education programs. Final report submitted to the U.S. Department of Agriculture, Economic Research Service. Washington, DC: Research Triangle Institute, January 2003.
2. Contento IR, Randell JS, Basch CE. Review and analysis of evaluation measures used in nutrition education intervention research. *J Nutr Educ Behav* 2002;34:2-25.
3. Doner L, ed. Charting the course for evaluation: how do we measure the success of nutrition education and promotion in food assistance programs? Summary of proceedings. Silver Spring, MD: KRA Corporation, February 1997.
4. Fourney A (contact). A compendium of survey instruments for fruit and vegetable consumption and physical activity. 2003-2004 edition. Sacramento, CA: Research and Evaluation Unit, Cancer Prevention and Nutrition Section, California Department of Health Services.
5. Hamilton WL, Rossi PH. Effects of food assistance and nutrition programs on nutrition and health: volume 1, research design. FANRR-19-1. Washington, DC: U.S. Department of Agriculture, Economic Research Service, February 2002.
6. Kim DJ, Holowaty EJ. Brief, validated survey instruments for the measurement of fruit and vegetable intakes in adults: a review. *Prev Med* 2003;36:440-447.
7. Logan C, Fox MK, Lin B. Effects of food assistance and nutrition programs on nutrition and health: volume 2, data sources. FANRR-19-2. Washington, DC: U.S. Department of Agriculture, Economic Research Service, September 2002.
8. McClelland JW, Keenan DP, Lewis J, Foerster S, Sugerman S, Mara P, Wu S, Lee S, Keller K, Hersey J, Lindquist C. Review of evaluation tools used to assess the impact of nutrition education on dietary intake and quality, weight management practices, and physical activity of low-income audiences. *J Nutr Educ* 2001;33(Supplement 1):S35-S48.
9. National Cancer Institute. Dietary assessment calibration/validation (DACV) register. Available at: <http://www.dacv.ims.nci.nih.gov/index.html>. Accessed February 10, 2004.
10. Nutrition education in FNS: a coordinated approach for promoting healthy behaviors, a report to Congress. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service. Accessed February 10, 2004.
11. Thompson FE, Byers T. Dietary assessment resource manual. *J Nutr* 1994;124 (Supplement).

12. Voichick J, ed. Evaluation of nutrition education with low-income families. *J Nutr Educ* 2001;33 (Supplement 1).
13. Yaroch AL, Resnicow K, Khan LK. Validity and reliability of qualitative dietary fat index questionnaires: a review. *J Am Diet Assoc* 2000;100:240-244.

ACRONYMS

AARP	American Association for Retired Persons
CAPI	Computer Assisted Personal Interview
CATI	Computer Assisted Telephone Interview
CI	Confidence Interval
DK	Don't Know
EATS	Eating at America's Table Study
F	False
FFQ	Food Frequency Questionnaire
FSP	Food Stamp Program
HEI	Healthy Eating Index
HS	High School
N	No
NA	Not Applicable
NCHS	National Center for Health Statistics
NHLBI	National Heart, Lung, and Blood Institute
NIH	National Institutes of Health
NS	Not Significant
OR	Odds Ratio
RDD	Random Digit Dialing
T	True
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
Y	Yes

NOTE : Acronyms for instruments reviewed, inventoried, and/or not ranked are included in Appendices A, B, and D.