Adapting Methodology from the SNDA and FITS Studies to Assess the CACFP

Mary Kay Fox
Mathematica Policy Research, Inc.
Why SNDA and FITS?

School Nutrition Dietary Assessment (SNDA) Studies
- Used by USDA/FNS since the early 1990s to monitor:
  - Quality of school meals
  - Contributions of school meals to children’s dietary intakes

Feeding Infant and Toddlers Studies (FITS)
- Large national samples of infants and toddlers in 2002 and 2008
  - Comprehensive assessment of dietary intakes
  - Developed special procedures for collection and processing of dietary intake data for these age groups
The School Nutrition Dietary Assessment (SNDA) Studies

SNDA-III
- Data from School Year 2004-2005
- Published in 2007

SNDA-IV
- Data from School Year 2009-2010
- To be published in mid-2012
SNDA-III and IV Samples

<table>
<thead>
<tr>
<th></th>
<th>SNDA-III</th>
<th>SNDA-IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Districts</td>
<td>129 in 36 States</td>
<td>578 in 48 States</td>
</tr>
<tr>
<td>Schools</td>
<td>398 schools</td>
<td>884 schools</td>
</tr>
<tr>
<td></td>
<td>- 145 Elementary</td>
<td>- 318 Elementary</td>
</tr>
<tr>
<td></td>
<td>- 126 Middle</td>
<td>- 287 Middle</td>
</tr>
<tr>
<td></td>
<td>- 127 High</td>
<td>- 279 High</td>
</tr>
<tr>
<td>Students</td>
<td>2,314 students in 287 schools</td>
<td>N/A</td>
</tr>
</tbody>
</table>
The Feeding Infants and Toddlers (FITS) Studies

- **FITS 2002**
  - 3,022 infants and toddlers 4 to 24 months of age

- **FITS 2008**
  - 3,273 infants, toddlers, and preschoolers 0 to 48 months of age
Previous FNS-Sponsored Studies of the CACFP

Early Childhood and Childcare Study
- Data collected in 1995
- 1,962 CACFP providers
- 1,347 children in care (observations)

CACFP Legislative Changes Study
- Data collected in 1999
- 542 Tier 2 CACFP family child care homes
- Observations in 97 homes
How well do the meals and snacks offered and served in CACFP centers and homes align with the required meal patterns and the underlying standards for calories and nutrients?
The SNDA Menu Survey
The SNDA Menu Survey
### SCHOOL NUTRITION DIETARY ASSESSMENT STUDY

#### Reimbursable Foods Form: Lunch

**NOTE:** For instructions on completing this form, please refer to instructions for Menu Survey.

<table>
<thead>
<tr>
<th>A.</th>
<th>B.</th>
<th>C.</th>
<th>D.</th>
<th>E.</th>
<th>F.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Item</strong></td>
<td><strong>Portion Size (Ind. Units)</strong></td>
<td><strong>Number of Reimbursable Portions Served</strong></td>
<td><strong>Total Number of Portions Served</strong></td>
<td><strong>Any Sold a la Carte or to Adults?</strong></td>
<td><strong>Number of a la Carte/Adult Portions Served</strong></td>
</tr>
<tr>
<td>MILK</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, whole</td>
<td>fl oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, 2%</td>
<td>fl oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, 1%</td>
<td>fl oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole, fat-free/kim</td>
<td>fl oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chocolate</td>
<td>fl oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other type/flavor (Specify)</td>
<td>fl oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other type/flavor (Specify)</td>
<td>fl oz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRUIT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple, fresh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applesauce, canned</td>
<td>cup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banana, fresh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit cocktail, canned</td>
<td>cup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orange, fresh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peaches, canned</td>
<td>cup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pears, fresh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pears, canned</td>
<td>cup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pineapple, canned</td>
<td>cup</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** If more than one size is available, list separately in "Other Menu Items" section.
The SNDA Menu Survey: Methodology

- Intensive self-administered survey
- Respondent provides detailed descriptions of foods offered and served over a full school week
- In-depth training, support, and technical assistance via telephone
- Data collected for lunch and breakfast
- SNDA-IV also collected data for afterschool snacks
- $40-$50 incentive
Menu Surveys in CACFP: Challenges

- Less technically oriented respondents
- Multiple meals and snacks offered
  - But meals are generally simpler – multiple choices are uncommon
- Multiple age groups
  - Different foods may be offered
- Obtaining data on portion sizes
  - Lack of awareness/focus
  - Family-style meal service
Menu Survey Adaptation Used in CACFP Studies

- Simpler than SNDA, but gathers much of the same information
- Simple step-by-step instructions
- Training and technical assistance
- Did not collect data on portion sizes
- For new study, consider including some of SNDA-III innovations
**Menu Survey Adaptations Used in CACFP Studies**

### Menus for Monday

Use the pages in this section to write down all the foods and drinks you served to children in your care on Monday. A sample of a completed Menu page can be found on the back of these instructions.

#### How to Fill in the Menu Pages

1. Each page asks about one meal or snacks. If you do not serve that meal or snack, check (√) the “Do not serve…” box in the upper right corner. Leave that page or part of the page blank.
2. For every meal and snack that you do serve, please fill in the chart to tell us what you served on Monday. Follow the instructions at the top of each column.

**What Did You Serve?**
- Write the names of all the foods and drinks you served for that meal or snack.
- Use a separate line for each food, and skip a line or two between each food.
- If you served a hot or cold sandwich, write the name of the sandwich on one line, then list each part of the sandwich on the lines below.

**Please Describe Each Food**
- Describe each food and drink in detail. Include the brand name whenever possible.
- The Food Description Guide shows the kinds of information we need you to write in this column.
- Be sure to note the cooking method, salt, and the types of fat used in preparation or added before serving the food.
- Use as many lines as you need to describe each food.

**Did You Prepare the Food or Was it Ready-to-Eat (or Drink)?**
- Check (√) one box for each food and drink you list to tell us whether you prepared the food yourself or whether the food was ready-to-eat (or drink).
- PREPARED MYSELF: Foods you make from scratch by combining two or more foods or ingredients. For example: cookies you made, rice you cooked, or a sandwich you made.
- If you have a recipe, or can easily tell us what ingredients you used in foods you prepared yourself, please fill out a page in the Food You Prepared section located at the back of the booklet behind Friday's menus.
- READY-TO-EAT: Foods and drinks that need little or no preparation on your part or can be eaten as is. For example: hot dogs, frozen dinners, apple juice made from frozen concentrate, or packaged cookies.

**To Which Age Groups Did You Serve this Food?**
- Check the boxes to tell us the ages of the children served each food or drink.
# Menu Survey Adaptations Used in CACFP Studies

**SAMPLE MENU FOR LUNCH**

<table>
<thead>
<tr>
<th>What Did You Serve?</th>
<th>Please Describe Each Food</th>
<th>Did you Prepare the Food or was it Ready-To-Eat?</th>
<th>To Which Age Groups Did You Serve the Food or Drink?</th>
</tr>
</thead>
<tbody>
<tr>
<td>List all foods and drinks.</td>
<td>Include brand name, cooking method, salt, and type of fat used, if applicable. Check the FOOD DESCRIPTION GUIDE pamphlet for additional instructions.</td>
<td>Prepare Myself OR Ready-to-Eat</td>
<td>1-2 Years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lunch</th>
<th></th>
<th>Prepared Myself OR Ready-to-Eat</th>
<th>1-2 Years</th>
<th>3-5 Years</th>
<th>6-12 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandwich</td>
<td>Peanut butter &amp; jelly</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Peanut butter</td>
<td>Smooth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jelly</td>
<td>Welch’s grape</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bread</td>
<td>Wonder, white</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carrot sticks</td>
<td>Raw, plain</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Pears</td>
<td>Del Monte, diced, canned in light syrup</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Milk</td>
<td>2%, white, Hood</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Peas and carrots</td>
<td>Del Monte, canned, heated</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Key Research Questions: Children’s Dietary Intakes

- What is the calorie, nutrient, and food group content of CACFP meals and snacks consumed by children?

- How do these meals and snacks contribute to children’s overall dietary intakes?

- How do children’s dietary intakes align with the Dietary Guidelines and the DRIs?
Data on Children’s Dietary Intakes

- Both SNDA-III and FITS collected 24-hour recalls
  - SNDA-III used parent-assisted recalls for children 10 and under

- Two 24-hour recalls were collected for a subsample to estimate usual dietary intakes

- Vitamin and mineral supplements
  - SNDA-III did not collect
  - FITS did collect

- Incentives
  - SNDA-III: $5-$10 for each recall
  - FITS 2008: $20 for first recall; $10 for second
Challenges for Study of CACFP

- Obtaining data on food intake while in care
  - Child can’t report (SNDA-III)
  - Provider can report (FITS), but how many children can one provider observe?

- Obtaining data on out-of-care intakes for infants and toddlers
  - Portion sizes
  - Infant/toddler foods
  - Breastfeeding
  - Vitamin and mineral supplements

- Sample sizes – with multiple age groups, need adequate number of second recalls to estimate usual intakes for each group
Lessons from Previous Studies

- **Data on in-care intakes collected via observation**
  - Challenge: How many children can be observed
  - Challenge: Dealing with infants/younger children

- **Data on out-of-care intakes collected via 24-hour recall with parents**
  - Challenge: Linking observation and parent reports for a complete 24-hour recall

- Use algorithm to impute unobserved breastmilk

- Use age-appropriate visual aids to obtain portion sizes
FITS 2008 Measurement Aids: Cups

C1  

C2  

C3  

C4  

C5  

C6  

C7  

C8
FITS 2008 Measurement Aids: Bowls

B1

B2

B5

B3

B4

B6
Conclusions

- SNDA methodology
  - Has a lot to offer, but needs to be tailored to CACFP respondent audience

- Methodology used in previous FNS studies of CACFP
  - Has a lot to offer, but could be updated to
  - Recent smaller, local studies provide useful insights

- FITS methodology
  - Has a lot to offer, particularly for obtaining dietary intake for infants and young toddlers