
Design of the National Household Food Acquisition and Purchase Survey (FoodAPS)

June 2, 2011

**Presentation to
Committee on National Statistics,
Household Survey Producers Workshop**

MATHEMATICA
Policy Research, Inc.

Study Objectives

- **Nationally representative survey of households**
- **Obtain a comprehensive picture of household food acquisitions over a 7-day period**
 - Food sources
 - Food choices
 - Food prices
 - Timing of acquisitions
 - Nutrient characteristics
- **Collect information about households that may influence food acquisition behaviors**
 - Household composition
 - Demographics
 - Income and assets
 - Food security
 - Health status
 - Diet and nutrition knowledge

Data will support research on ...

- **Patterns of shopping behavior and food choice**
- **Influence of access and retailer choice on dietary quality**
- **Magnitudes of income and price elasticities of demand for food**
- **Relationship between food acquisition patterns and levels of food security**
- **Role of SNAP in overall household food acquisitions**

How is FoodAPS different?

1. Food-at-home (FAH) and food-away-from-home (FAFH)

2. Food purchases and food obtained for free, from all sources, including:

- Stores
- School
- Work
- Relative/friend
- Food bank / food pantry
- Garden / fishing / hunting

3. Overall expenditures and item detail

FoodAPS Field Periods and Survey Completes

Sample	Field Test Feb-May 2011	Full-Scale March – Sept. 2012
SNAP participants	200	1,500
Very low income, non-SNAP (income < 100% poverty)	80	800
Low income, non-SNAP (income 100 – 185% poverty)	120	1,200
Higher income households (income ≥ 185% poverty)	—	1,500
Total	400	5,000

Instrument Design

How to make it work?

Make it easy for respondents

1. Handheld scanner
2. Step-by-step guides
3. Color coded booklet sections



The image shows three pages from a survey booklet. The first page is titled 'Daily List - Day 1' and has sections A and B for recording food and drink purchases. The second page is titled 'Foods and Drinks Brought into the Home' and includes a table for listing items. The third page is titled 'Meals, Snacks, and Drinks You Got Outside Your Home' and includes a table for recording purchases. Each page has a 'TAPE RECEIPT HERE' label.

STEP-by-STEP Guide

When you bring Food and Drinks Home...

- 1 SCAN the BEGIN barcode**
 - If you forgot to scan BEGIN before scanning your groceries, scan here and continue to steps 2, 4 and 5. There's no need to rescan your groceries.
- 2 SCAN a barcode next to the picture of a PLACE in the Places section**
- 3 SCAN ALL the FOOD and DRINKS you got from this PLACE**
 - Find the barcode on the food or drink product and scan it. If you have more than one of the same item, scan each one.
 - If the product has no barcode, look for a picture of the product in this binder and scan the barcode next to the picture. Scan the quantity of fruits and vegetables using the Quantity Codes.
 - If the product has no barcode and it not in this binder, set it aside until you get to Step 4.
- 4 COMPLETE a blue form. LIST the food and drinks you could not scan at the bottom of the page. ATTACH your receipt.**
- 5 SCAN the END barcode when you are finished**

How to make it work? (continued)

Build in redundancy

1. Food-at-home

- Booklets, receipts, scanner

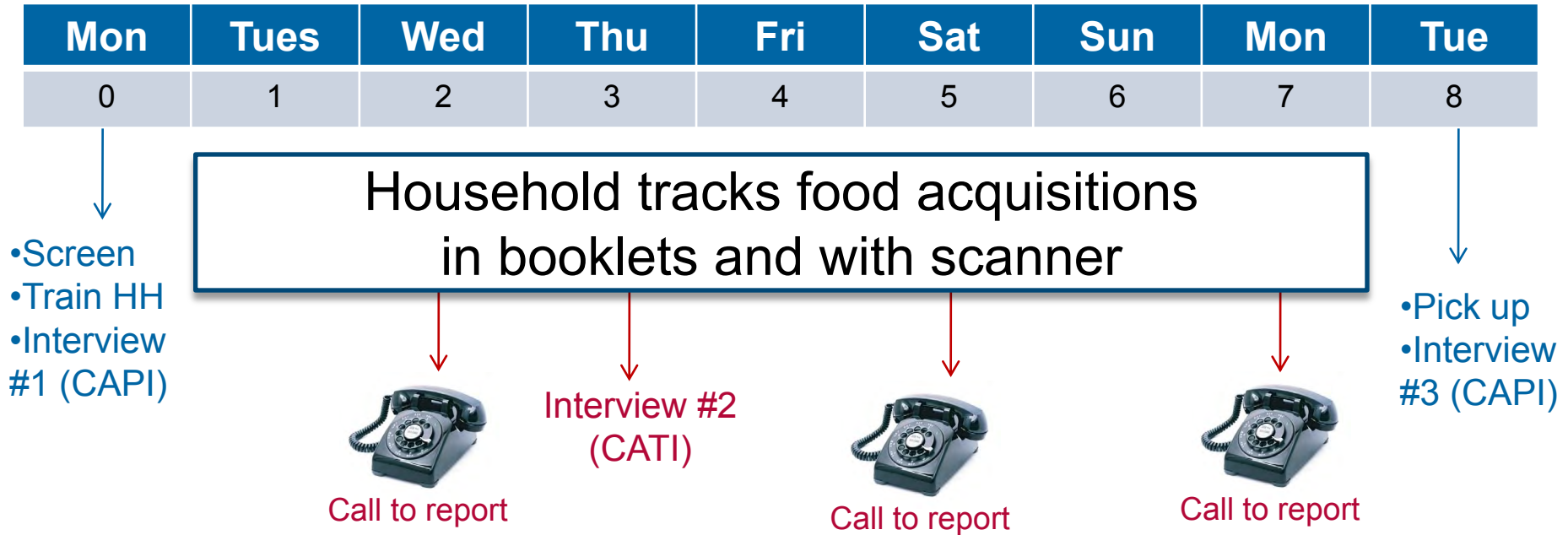
2. Food-away-from-home

- Booklets, receipts, telephone calls

3. Booklets

- Daily list of acquisitions, detail page for each acquisition

Data Collection Week for a Household



Testing and Feedback Prior to Field Test

- 1. May 2010 - Cognitive Tests – 16 households**
- 2. July 2010 - Pre-Test of all instruments – 6 households**
- 3. January 2010 - Field interviewer pre-test**

Results

- **Respondents enjoyed using the scanner!**
- **Respondent training is essential**
 - Materials are initially overwhelming
 - Scanner must be demonstrated
 - Train by guiding respondents through sample FAFH and FAH acquisitions, including scanning and completing forms

Field Test

Field Test Objectives

- **Compare effectiveness of two different survey protocols**
 - Single Binder vs. Multiple Booklet
- **Determine optimal incentives for the full-scale survey**
- **Obtain estimates of**
 - Response rates
 - Burden
 - Design effects for key outcome measures

Data collected in two purposively selected PSUs

Two Survey Protocols

Track Food Acquisitions



Single Binder

- For all household members
- For FAH and FAFH



Multiple Booklets

- Binder for FAH
- Adult booklets for FAFH
- Youth booklets for FAFH

Incentive Design

Component	Purpose	Low	High
1. Base incentive	Recruit primary respondent	\$50	\$100
2. Additional HH member incentive <ul style="list-style-type: none">•Adults (age 15+)•Youth (age 11-14)	Encourage other household members to report acquisitions	\$20 \$10	\$20 \$10
3. Telephone bonus	Encourage inbound calls	\$10/call	\$10/call

Incentive Levels During the Field Test

HH Size	Expected % of Sample	Additional HH Members*	<u>Low Incentive</u>	<u>High Incentive</u>
			Base payment: \$50 Telephone bonus: \$30 Plus Additional HH Mem	Base payment: \$100 Telephone bonus: \$30 Plus Additional HH Mem
			Total amount	Total amount
1	45.5	\$0	\$80	\$130
2	19.8	\$20	\$100	\$150
3	15.6	\$40	\$120	\$170
4	10.1	\$60	\$140	\$190
5	5.5	\$80	\$160	\$210
6	2.3	\$100	\$180	\$230
Average			\$130	\$180

*Assumes all additional HH members are over age 14

Summary of the Data Collection

Complete 3 Interviews

- Demographics
- Finances
- Diet and food security

Track Food Acquisitions



Call to Report



1 hour total
(including the screening interview and reviewing food booklets on the final day)

Total time = 5 hours
(after initial 1-hour training)

13 min per call
(2 calls)

Primary respondent | **Other HH members** | **Primary respondent**

\$50 or \$100
(low v. high)

\$10 Age 11-14
\$20 Age 15 +

\$10 per call
(up to 3 calls)

PAPER CHECK | **GIFT CARDS** | **GIFT CARDS**

Data Collection Materials

Daily List – One for each day

DON'T FORGET to include . . .

Places for box



A Places to Get Meals, Snacks, and Drinks Outside Your Home

Any food prepared outside the home	Food court at mall	School store
Cafeteria at school	Food kiosk	Senior center
Cafeteria at work	Friend's home	Snack bar
Catered events	Ice cream truck	Sporting event
Church	Meals on Wheels	Store
Club	Mobile food vendor	Street vendor
Coffee shop	Movie theater	Take-out
Concession stand	Relative's home	Take-out meals from markets
Delivery	Restaurant	Tavern, bar, pub
Fast food place	Sandwich shop	Vending machines

Places for box



B Places to Get Foods and Drinks You Bring Home

Supermarket and grocery store	Wholesale club like B.J.'s, Costco, and Sam's
Big box stores like Target and Walmart	Convenience store
Pharmacy or drugstore	Farmers' market
Garden—yours or a friend's	Hunting or fishing
Bakery, deli, meat, or fish market	Liquor store

AND DON'T FORGET. . .meals, snacks, and drinks for children under age 11.

NEED HELP? HAVE QUESTIONS?

Call us any time if you have questions about how to complete pages, scan your purchases, or about the study.

Our number is 1-866-275-8659.

Daily List — Day 4

(✓) CHECK DAY Mon Tue Wed Thu Fri Sat Sun

A

Meals, snacks, and drinks you got outside your home

Write name of PLACE where you got meals, snacks, and drinks from outside your home (include places where you bought food and places where you got food for free)

NAME of place	ENTER Total Paid (include tax and tip)	(✓) Check if free	(✓) FILL OUT Red page
1.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
2.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
3.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
4.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
5.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
6.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
7.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
8.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
9.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
10.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>

B

Groceries and other foods and drinks you brought home

Write name of PLACE where you got groceries and other food and drinks to be brought home (include places where you bought food and places where you got food for free)

NAME of place	ENTER Total Paid (include tax and tip)	(✓) Check if free	(✓) FILL OUT Blue page
1.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
2.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
3.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
4.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
5.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
6.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
7.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
8.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
9.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>
10.	\$ _____	<input type="checkbox"/>	<input type="checkbox"/>

QUESTIONS? Call 1-866-275-8659

Office Use

Red Pages – Details for FAFH

If you do not have a receipt ...

And for foods not listed on the receipt ...

Write each food and drink on a separate line

Describe each food and drink:

- ✓ The **BRAND**, product name, or menu item
- ✓ The **TYPE** of food (for example, white bread or whole wheat bread; chicken nuggets or grilled chicken breast)
- ✓ The **FORM** of the food (for example, raw carrots or cooked carrots)
- ✓ The **FLAVOR** (for example, chocolate milk, oatmeal cookie, or vanilla yogurt)
- ✓ The **FAT and SUGAR** (for example, whole milk or 1% milk; regular or diet soda; 100% juice or fruit-flavored drink)
- ✓ Things you **ADDED** (for example, butter on bread, ketchup with French fries, dressing on salads)

Write the size/amount of food or drink, even if you did not eat or drink all of it

- ✓ If the food or drink came in a **PACKAGE** or **CONTAINER** → write down the ounces or grams listed on the container
- ✓ If the food or drink came in **SIZES** → write down the size you got. For example, small, medium, large, super gulp, or double gulp
- ✓ If the number of ounces or grams or the size is not clear, leave this space blank

AND DON'T FORGET ...

- » **It's not about what you eat—it's about what you get!**
- » **Do not scan items that you write on a red page**
- » **Total paid is the amount paid by members of your household**

Meals, Snacks, and Drinks You Got Outside Your Home

Complete one **RED** page for each **PLACE** where you got food and drinks

<input checked="" type="checkbox"/> DAY you got this meal, snack, drink	<input type="checkbox"/> Mon	<input type="checkbox"/> Tue	<input type="checkbox"/> Wed	<input type="checkbox"/> Thu	<input type="checkbox"/> Fri	<input type="checkbox"/> Sat	<input type="checkbox"/> Sun
Name of PLACE where you got food:							
Names of PEOPLE who ate this meal, snack, or drink:							
<input checked="" type="checkbox"/> Check the meal or snack							
<input type="checkbox"/> Breakfast	<input type="checkbox"/> Lunch	<input type="checkbox"/> Dinner/Supper	<input type="checkbox"/> Snack/drink				
<input checked="" type="checkbox"/> How did you pay? CHECK all that apply							
<input type="checkbox"/> Cash	<input type="checkbox"/> Check	<input type="checkbox"/> Credit card	<input type="checkbox"/> Debit card				
<input type="checkbox"/> SNAP EBT	<input type="checkbox"/> School lunch card	<input type="checkbox"/> Free	<input type="checkbox"/> Gift card				
<input type="checkbox"/> Other	<input type="checkbox"/> Store/Loyalty card	<input type="checkbox"/> Coupons					
TOTAL paid (including tax)							
Total paid: \$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>				If you left a tip, how much? \$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			
<input checked="" type="checkbox"/> Did you buy food or drinks for anyone who is not in your household?							
<input type="checkbox"/> No		<input type="checkbox"/> 1 person		<input type="checkbox"/> 2 people		<input type="checkbox"/> 3 or more people	
Complete this section if you DO NOT have a receipt or the receipt DOES NOT list each food item.							
Write each food and drink on a separate line <small>Only include foods and drinks you got that are not on the receipt, such as bread and salad that come with a meal</small>			Write size or amount if known <small>(Ounces, grams, lbs, etc.)</small>		How many?	Amount paid	

TAPE
RECEIPT
HERE

QUESTIONS? Call 1-866-275-8659

Office Use

Blue Pages – Details for FAH

STEP-by-STEP Guide

When you bring Food and Drinks Home...

- 1

SCAN the **BEGIN** barcode →


 - ➡ If you forgot to scan BEGIN before scanning your groceries, scan here and continue to steps 2, 4 and 5. There's no need to rescan your groceries. →

- 2

SCAN a barcode next to the picture of a **PLACE** in the Places section
- 3

SCAN ALL the **FOOD** and **DRINKS** you got from this **PLACE**

 - ➡ Find the barcode on the food or drink product and scan it. If you have more than one of the same item, scan each one.
 - ➡ If the product has no barcode, look for a picture of the product in this binder and scan the barcode next to the picture. Scan the quantity of fruits and vegetables using the Quantity Codes.
 - ➡ If the product has no barcode and it not in this binder, set it aside until you get to Step 4.
- 4

COMPLETE a blue form. **LIST** the food and drinks you could not scan at the bottom of the page. **ATTACH** your receipt.
- 5

SCAN the **END** barcode when you are finished →


Foods and Drinks Brought into the Home

Complete one BLUE page for each PLACE where you got food that you brought home

(√) DAY you brought food home	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Name of PLACE where you got food:							
Name of PERSON who got the food:							
(√) Did you ...							
Use store or manufacturer's coupons?	<input type="checkbox"/> yes		<input type="checkbox"/> no		TAPE RECEIPT HERE		
Use a store loyalty card or a frequent shopper card?	<input type="checkbox"/> yes		<input type="checkbox"/> no				
Save your receipt?	<input type="checkbox"/> yes		<input type="checkbox"/> no				
If you DID NOT save receipt, how much did you pay for food and drinks?	\$ _____						
(√) How did you pay? Check ALL that apply							
<input type="checkbox"/> Cash	<input type="checkbox"/> Check	<input type="checkbox"/> Credit card	<input type="checkbox"/> Debit card				
<input type="checkbox"/> WIC	<input type="checkbox"/> SNAP EBT amount: \$ _____		<input type="checkbox"/> TANF EBT	<input type="checkbox"/> Free			
(√) Did you SCAN the food and drinks?							
<input type="checkbox"/> ALL		<input type="checkbox"/> None		<input type="checkbox"/> Some			
List ALL foods and drinks you COULD NOT SCAN							
Description (Please be as specific as possible)	Write size or amount if known <small>(Ounces, grams, lbs, etc.)</small>	How many?					

QUESTIONS? Call 1-866-275-8659

Office Use

Scanner Book

HOW to USE the Scanner

Scan button
Delete button

- 1** POINT the scanner at a barcode. Hold it about 2 inches away and at a slight angle.
- 2** PRESS the scan button. Be sure the red laser line covers the entire barcode. Wait for the beep.

CAUTION: To avoid eye damage, do not stare directly into the laser beam. DO NOT POINT THE SCANNER AT ANOTHER PERSON.

Use the DELETE button only if you scan an item more than once by mistake. To delete, point the scanner at a barcode and press the delete button. After you finish scanning, keep the scanner with this binder until you need it again.

PRACTICE SCANNING on the Barcode Below

PLACES – Scan a place before scanning food from that place

Convenience store, corner store, bodega	Grocery store or supermarket
 P-1906	 P-1906
Discount store	Liquor or package store
 P-1907	 P-1907
Wholesale	
 P-1908	

FRUITS & VEGETABLES: Alfalfa Sprouts – B

Alfalfa Sprouts	 M-9032	
Apple	 Scan quantity code	
Apricot	 Scan quantity code	
Artichoke	 Scan quantity code	
Arugula	 Scan quantity code	

BULK FOODS: Grains & Rice

Rice, Basmati	 M-9033		Oats, steel cut	 M-9038
Rice, Brown	 M-9034		Plyo	 M-9039
Rice, White	 M-9035		Spelt	 M-9040
Rice, Wild	 M-9036		Wheat	 M-9041
Clubs, rolled	 M-9037			

Questions? Call us toll free at 1-888-275-8889

5 | Page

Telephone Reporting of FAFH

The National Food Study
Welcome nredel ! [Change Password] [Log Out]
Tue, May 24, 2011

Household Information Household #70000024 [New Call](#)
[Call Manager Screen](#) [Households List](#) [Manage Users](#)

Household Details
Booklet
Call Log
Notes and Email
User Participation

Household Name Household #70000024 70000024	Primary Contact John Adams 2015551214	Food Booklets John Abigail	Survey Schedule																					
			<table style="width: 100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <td style="background-color: #FFD700;">Day 1</td> <td style="background-color: #FFD700;">Day 2</td> <td style="background-color: #FFD700;">Day 3</td> <td style="background-color: #FFD700;">Day 4</td> <td style="background-color: #FFD700;">Day 5</td> <td style="background-color: #FFD700;">Day 6</td> <td style="background-color: #FFD700;">Day 7</td> </tr> <tr> <td style="background-color: #FFD700;">Mon</td> <td style="background-color: #FFD700;">Tue</td> <td style="background-color: #FFD700;">Wed</td> <td style="background-color: #FFD700;">Thu</td> <td style="background-color: #FFD700;">Fri</td> <td style="background-color: #FFD700;">Sat</td> <td style="background-color: #FFD700;">Sun</td> </tr> <tr> <td style="background-color: #FFD700;">3/28</td> <td style="background-color: #FFD700;">3/29</td> <td style="background-color: #FFD700;">3/30</td> <td style="background-color: #FFD700;">3/31</td> <td style="background-color: #FFD700;">4/1</td> <td style="background-color: #FFD700;">4/2</td> <td style="background-color: #FFD700;">4/3</td> </tr> </table>	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Mon	Tue	Wed	Thu	Fri	Sat	Sun	3/28	3/29	3/30	3/31	4/1	4/2	4/3
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7																		
Mon	Tue	Wed	Thu	Fri	Sat	Sun																		
3/28	3/29	3/30	3/31	4/1	4/2	4/3																		

Day
All ▾

Day	Booklet	Food Location
1-Mon	Abigail	(Empty)
1-Mon	John	(Empty)
2-Tue	Abigail	(Empty)
2-Tue	John	(Empty)
3-Wed	Abigail	(Empty)
3-Wed	John	(Empty)
4-Thu	Abigail	(Empty)
4-Thu	John	(Empty)
5-Fri	Abigail	(Empty)
5-Fri	John	(Empty)
6-Sat	Abigail	(Empty)
6-Sat	John	(Empty)
7-Sun	Abigail	(Empty)
7-Sun	John	(Empty)

Daily List Day 1 - Mon, March 28, 2011 Abigail

Members on Booklet:
Abigail Member did not get food this day Member is refusing to report

Save

A. Meals, snacks, and drinks you got outside your home.

Name of Place	Total Paid '0' if free	Completed Red Page?
1. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N
2. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N
3. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N
4. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N
5. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N
		Add More Rows..

B. Groceries and other foods and drinks you brought home.

Name of Place	Total Paid '0' if free	Completed Blue Page?
1. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N
2. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N
3. <input style="width: 95%;" type="text"/>	<input style="width: 50%;" type="text"/>	○ Y ○ N

Key Questions Regarding Data Quality

- 1. Did respondents report all food acquisitions?**
 - We can validate SNAP transactions
- 2. What is the rate of participation among household members?**
 - Examine differences by survey protocol
- 3. What is the rate of saved receipts?**
- 4. Does the scanner data match up with receipts?**
- 5. What percent of scanned UPC codes are matched to item descriptions?**
- 6. Are item descriptions sufficient for a match to nutrient data?**

Focus of the Field Test Analysis

- 1. Response rates – at each stage and overall**
- 2. Design effects**
- 3. Item nonresponse**
- 4. Adherence to survey protocols**
- 5. Data quality**
- 6. Comparisons by survey protocol**
- 7. Comparisons by incentive level**

For More Information

The National Food Study

Sponsored
by the U.S. Department
of Agriculture



El Estudio Nacional de la Alimentación

Auspiciado por el
Dpto. de Agricultura
de los EE.UU.

Sponsored by the U.S. Department of Agriculture, **Economic Research Service (ERS)** and **Food and Nutrition Service (FNS)**.

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Visit: www.usdafoodstudy.org