

# **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

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- **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 ...

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- **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?

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**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

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# 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



**Daily List — Day 1**

(✓) 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 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
1.	\$	<input type="checkbox"/>
2.	\$	<input type="checkbox"/>
3.	\$	<input type="checkbox"/>
4.	\$	<input type="checkbox"/>
5.	\$	<input type="checkbox"/>
6.	\$	<input type="checkbox"/>
7.	\$	<input type="checkbox"/>
8.	\$	<input type="checkbox"/>
9.	\$	<input type="checkbox"/>
10.	\$	<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 to 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
1.	\$	<input type="checkbox"/>
2.	\$	<input type="checkbox"/>
3.	\$	<input type="checkbox"/>
4.	\$	<input type="checkbox"/>
5.	\$	<input type="checkbox"/>
6.	\$	<input type="checkbox"/>
7.	\$	<input type="checkbox"/>
8.	\$	<input type="checkbox"/>
9.	\$	<input type="checkbox"/>
10.	\$	<input type="checkbox"/>

QUESTIONS? Call 1-866-275-8659

**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? Use a store loyalty card or a frequent shopper card? Save your receipt? If you DID NOT save receipt, how much did you pay for food and drinks?)

(✓) How did you pay? Check ALL that apply: Cash, Check, Credit card, WIC, SNAP EBT amount, SNAP EBT, Free

(✓) Did you SCAN the food and drinks? ALL, None, Some

List ALL foods and drinks you COULD NOT SCAN (Description (Please be as specific as possible) Write size or amount if known (cups, grams, lbs, etc.))

QUESTIONS? Call 1-866-275-8659

**Meals, Snacks, and Drinks You Got Outside Your Home**

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

(✓) DAY you got this meal, snack, drink: Mon Tue Wed Thu Fri Sat Sun

Name of PLACE where you got food: \_\_\_\_\_

Names of PEOPLE who ate this meal, snack, or drink: \_\_\_\_\_

(✓) Check the meal or snack: Breakfast, Lunch, Dinner/Supper, Snacks/Drink

(✓) How did you pay? CHECK all that apply: Cash, Check, Credit card, SNAP EBT, School lunch card, Free, Gift card, Other, Store/Loyalty card, Coupons

TOTAL paid (including tax) Total paid \$ If you left a tip, how much? \$

(✓) Did you buy food or drinks for anyone who is not in your household? No, 1 person, 2 people, 3 or more people

Complete this section if you DID NOT have a receipt or the receipt DOES NOT list each food item. Write each food and drink on a separate line. Only include foods and drinks you got that are not on the receipt, such as bread and salad that come with a meal. Write size or amount if known (cups, grams, lbs, etc.) How many? Amount paid

QUESTIONS? Call 1-866-275-8659

### 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)

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## Build in redundancy

### 1. Food-at-home

- Booklets, receipts, scanner

### 2. Food-away-from-home

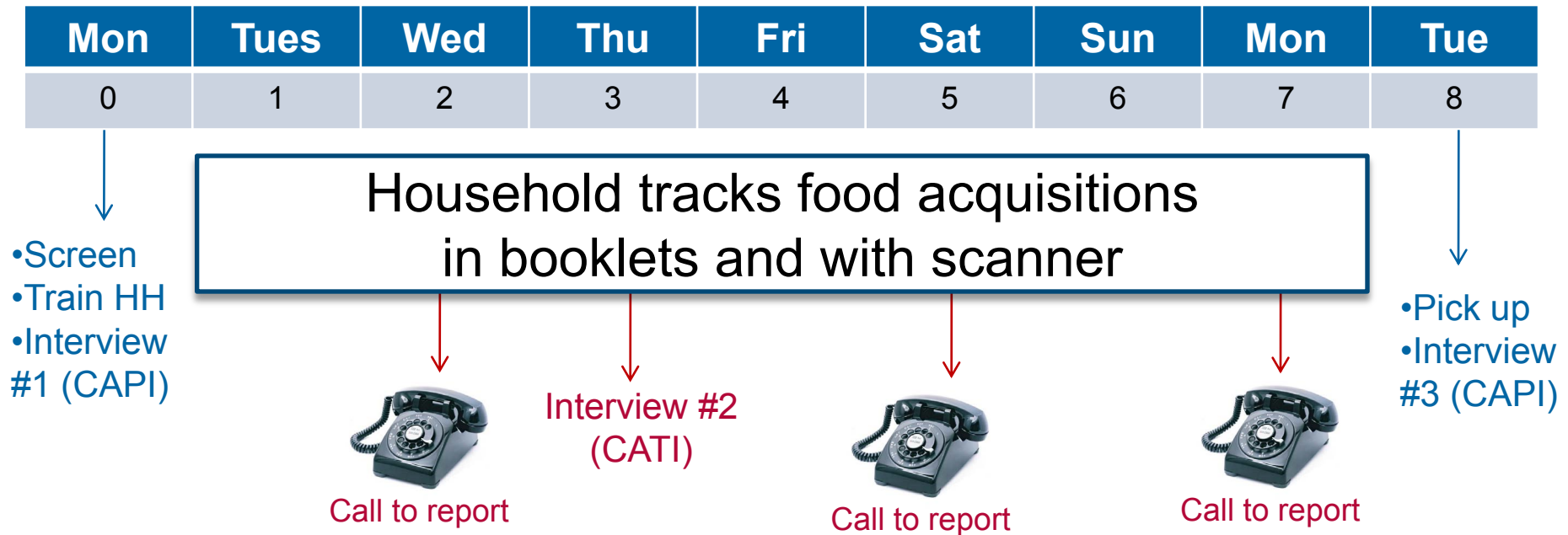
- Booklets, receipts, telephone calls

### 3. Booklets

- Daily list of acquisitions, detail page for each acquisition



# Data Collection Week for a Household



# Testing and Feedback Prior to Field Test

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- 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

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# Field Test

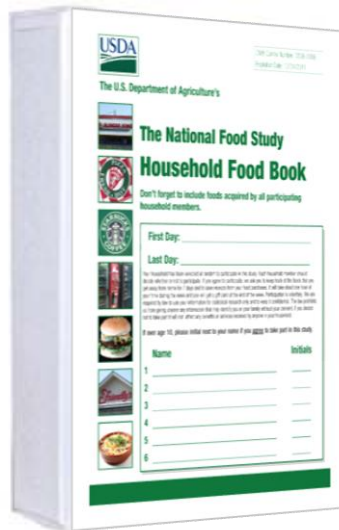
# Field Test Objectives

- **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"><li>•Adults (age 15+)</li><li>•Youth (age 11-14)</li></ul>	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> Base payment: \$50 Telephone bonus: \$30 Plus Additional HH Mem  <b>Total amount</b>	<u>High Incentive</u> Base payment: \$100 Telephone bonus: \$30 Plus Additional HH Mem  <b>Total amount</b>
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

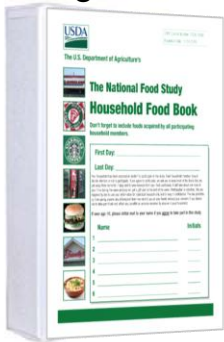
# Summary of the Data Collection

## Complete 3 Interviews

- Demographics
- Finances
- Diet and food security

## Track Food Acquisitions

Single Binder



Multiple Booklet



## Call to Report



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

**Primary respondent**

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

**PAPER CHECK**

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

**Other HH members**

**\$10**  
**\$20**

**Age 11-14**  
**Age 15 +**

**GIFT CARDS**

**13 min per call**  
**(up to 3 calls)**

**Primary respondent**

**\$10 per call**  
**(up to 3 calls)**

**GIFT CARDS**



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# 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

<b>(✓) DAY you got this meal, snack, drink</b>	<input type="checkbox"/> <b>Mon</b>	<input type="checkbox"/> <b>Tue</b>	<input type="checkbox"/> <b>Wed</b>	<input type="checkbox"/> <b>Thu</b>	<input type="checkbox"/> <b>Fri</b>	<input type="checkbox"/> <b>Sat</b>	<input type="checkbox"/> <b>Sun</b>
<b>Name of PLACE where you got food:</b>							
<b>Names of PEOPLE who ate this meal, snack, or drink:</b>							
<b>(✓) Check the meal or snack</b>							
<input type="checkbox"/> Breakfast	<input type="checkbox"/> Lunch	<input type="checkbox"/> Dinner/Supper	<input type="checkbox"/> Snack/drink				
<b>(✓) How did you pay? CHECK all that apply</b>							
<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					
<b>TOTAL paid (including tax)</b>							
Total paid		If you left a tip, how much?					
\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>					
<b>(✓) Did you buy food or drinks for anyone who is not in your household?</b>							
<input type="checkbox"/> No	<input type="checkbox"/> 1 person	<input type="checkbox"/> 2 people	<input type="checkbox"/> 3 or more people				

**TAPE  
RECEIPT  
HERE**

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

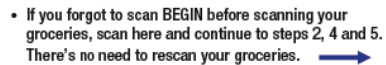
QUESTIONS? Call 1-866-275-8659

Office Use

## Blue Pages – Details for FAH

## STEP-by-STEP Guide

### When you bring Food and Drinks Home...



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

**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.

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



### Foods and Drinks Brought into the Home

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

[illegible]

**QUESTIONS? Call 1-866-275-8659**

Office Use

# Scanner Book





# 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**

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
<a href="#">1-Mon</a>	Abigail	(Empty)
<a href="#">1-Mon</a>	John	(Empty)
<a href="#">2-Tue</a>	Abigail	(Empty)
<a href="#">2-Tue</a>	John	(Empty)
<a href="#">3-Wed</a>	Abigail	(Empty)
<a href="#">3-Wed</a>	John	(Empty)
<a href="#">4-Thu</a>	Abigail	(Empty)
<a href="#">4-Thu</a>	John	(Empty)
<a href="#">5-Fri</a>	Abigail	(Empty)
<a href="#">5-Fri</a>	John	(Empty)
<a href="#">6-Sat</a>	Abigail	(Empty)
<a href="#">6-Sat</a>	John	(Empty)
<a href="#">7-Sun</a>	Abigail	(Empty)
<a href="#">7-Sun</a>	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 type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N
2. <input type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N
3. <input type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N
4. <input type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N
5. <input type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N
<a href="#">Add More Rows...</a>		

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

Name of Place	Total Paid '0' if free	Completed Blue Page?
1. <input type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N
2. <input type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N
3. <input type="text"/>	<input type="text"/>	<input type="radio"/> Y <input type="radio"/> N

# Key Questions Regarding Data Quality

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- 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

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- 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)**.

## USDA/ERS Contacts:

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Pheny Weidman, [pweidman@ers.usda.gov](mailto:pweidman@ers.usda.gov)

Visit: [www.usdafoodstudy.org](http://www.usdafoodstudy.org)