

# Overview of the Consumer Expenditure Surveys

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Consumer Expenditure Surveys Program

CE Microdata Users' Workshop

July 19, 2017



# Mission

- The mission of the CE is to collect, process, and disseminate information that presents a statistical picture of consumer spending for the Consumer Price Index, government agencies, and private data users.
- The mission encompasses analyzing CE data to produce socio-economic studies of consumer spending, and providing CE data users with assistance, education, and tools for working with the data.



# Terminology

- **Why a consumer expenditure survey, and not a consumption survey?**
- **Consumer Expenditures:**
  - ▶ “Expenditures are the acquisition costs, as measured by the actual financial obligation at the time of acquisition, in dollar terms, for any payment method, for goods and services acquired by the consumer unit from outside the consumer unit, which are intended to increase the well-being of the consumer unit.”



# Terminology

## ■ Consumer Unit (CU):

- ▶ all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements
- ▶ a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent
- ▶ or two or more persons living together who use their income to make joint expenditure decisions
- ▶ approximately equivalent to households; 99 percent of HHs have 1 CU

## ■ Reference Person:

- ▶ The first person listed by the respondent when asked who owns or rents the home

# History

- **1888:** First BLS expenditure survey
- **1972:** Census Bureau begins survey collection for BLS. First use of weekly Diary and 3-month recall Interview instruments
- **1979:** Continuous data collection starts
- **2003:** Computer Assisted Personal Interview (CAPI) begins
- **2004:** Imputation for missing income variables is implemented
- **2013:** Model-based estimation of income taxes is introduced
- **2015:** Elimination of the first (bounding) interview in Interview



# Survey Design, Data Collection, & Research



<b>Nutrition Facts</b>	
Serving Size 172 g	
<b>Amount Per Serving</b>	
<b>Calories</b> 200	Calories from Fat 8
<b>% Daily Value*</b>	
<b>Total Fat</b> 1g	1%
Saturated Fat 0g	1%
Trans Fat	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 7mg	0%
<b>Total Carbohydrate</b> 36g	12%
Dietary Fiber 11g	45%
Sugars 6g	
<b>Protein</b> 13g	
Vitamin A 1%	Vitamin C 1%
Calcium 4%	Iron 24%
<small>*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.</small>	

# Survey Design

- National probability sample of households designed to represent the total U.S. civilian non-institutional population
  - ▶ Includes: persons living in houses, condominiums, apartments, and group quarters such as college dormitories
  - ▶ Excludes: military personnel living on base and nursing home residents, as well as people in prisons or other institutions
- Data are collected by the Census Bureau on behalf of BLS via two independent surveys
  - ▶ Quarterly Interview Survey
  - ▶ Diary Survey

# Quarterly Interview Survey

- Designed primarily to collect expenditures for large or less frequently purchased items that can be recalled in a quarterly interview, or things that you make regular monthly payments on
- Approximately 48,000 addresses are visited each year
- CUs are identified within housing units associated with those addresses
- Rotating panel design, each CU is interviewed for 4 consecutive quarters
- Approximately 7,000 CUs per quarter result in 28,000 interviews per year





# Quarterly Interview Survey

- Instrument was paper-based until 2003, then converted to Computer Assisted Personal Interviewing (CAPI)
- Bounding interview eliminated in 2015
- Mode is primarily personal visit, but some decentralized telephone collection occurs
- Interview length is 65 minutes average



# Diary Survey

- Designed primarily to collect detailed data on small, frequently purchased items which would be difficult to recall in a quarterly interview
- 4 sections:
  - ▶ Food for home consumption
  - ▶ Meals, snacks, and drinks away from home
  - ▶ Clothing, shoes, jewelry, accessories
  - ▶ All other items

# Diary Survey

- Annual diary cases are divided equally amongst the days of the year and then assigned to the collection period month
- Each CU is assigned two consecutive 7-day diaries with two personal visits
- Starting in 2017, Field Representatives (FRs) have up to a month to place the diaries
- Approximately 7,000 CUs result in 14,000 completed diaries
- At BLS, each Diary week is treated separately for estimation purposes



# Research

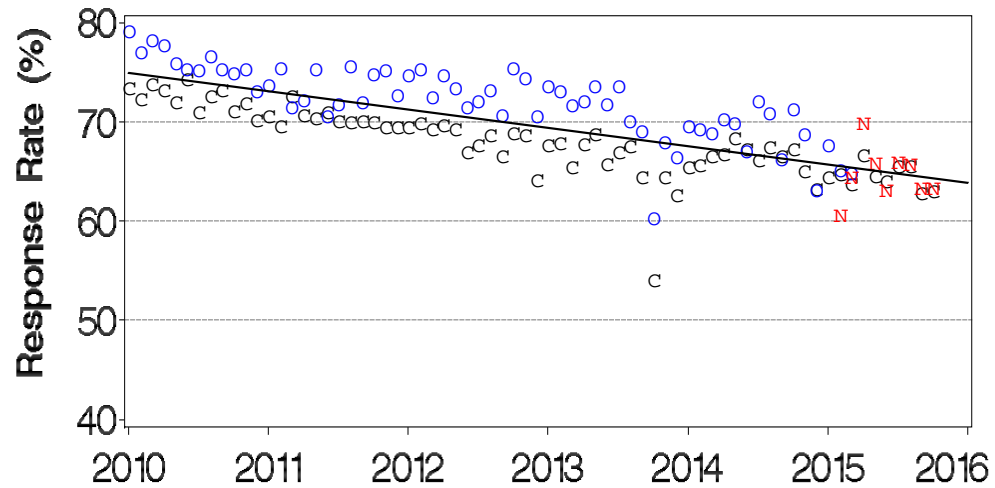
- Propose and evaluate regular survey questionnaire changes
- Develop and evaluate new methods:
  - ▶ Use of incentives for increased response and engagement
  - ▶ Linking to administrative data for validation
  - ▶ Effect of record use on data quality
- Provide comprehensive information on data quality
  - ▶ Data quality profile
  - ▶ R-indicators for representivity assessments
  - ▶ Response rates and potential nonresponse bias



# Response Rates

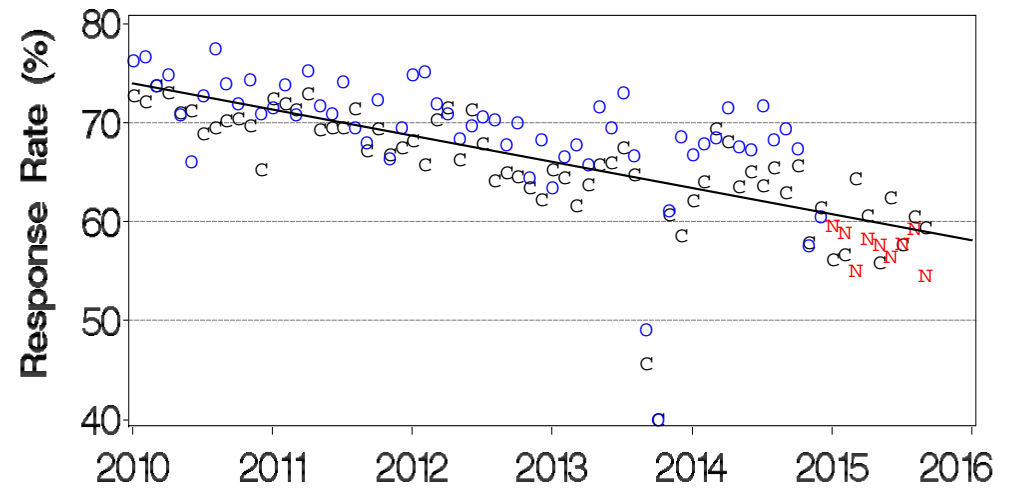
## Interview Response Rates for Continuing, Outgoing, & New Counties

$$\text{Response Rate} = (I / (I + A)) \times 100\%$$



## Diary Response Rates for Continuing, Outgoing, & New Counties

$$\text{Response Rate} = (I / (I + A)) \times 100\%$$



# Dissemination & Outreach



# CE Customers

## ■ Government

- ▶ Consumer Price Index (CPI)
- ▶ Census Bureau (BOC)
- ▶ Defense Department (DoD)
- ▶ Internal Revenue Service (IRS)
- ▶ Bureau of Economic Analysis (BEA)
- ▶ Health and Human Services (HHS)
- ▶ Department of Agriculture (USDA)

## ■ Media

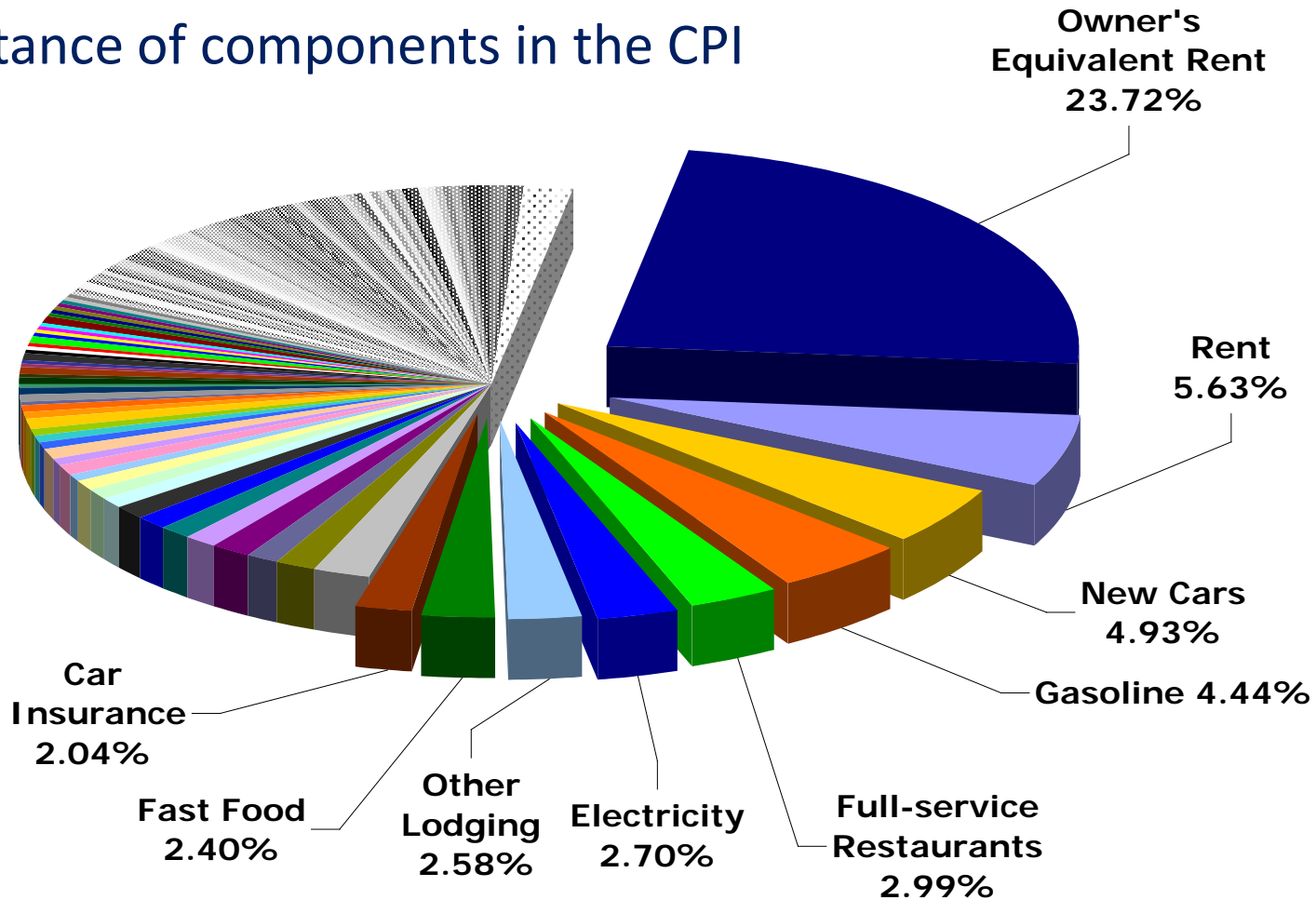
## ■ Market & Academic Research

## ■ *YOU!*



# CPI Cost Weights

Relative importance of components in the CPI





# Media



## Consumer Confidence Was Up in June, According to Report

JCK · Jul 14, 2017



## New Couch Syndrome: The Real Deal

The MReport · Jul 13, 2017



## How I vacationed like a tycoon on French Riviera on middle-class budget

USA TODAY · Jul 12, 2017

# Media



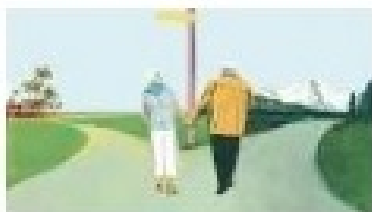
## **New Homeowners Are Strong Boost to Overall US Economy**

World Property Journal · Jul 11, 2017



## **Inside the numbers: Supply, demand and off-lease volume**

Auto Remarketing · Jul 13, 2017



## **What to Do When He Wants to Retire One Place, She Another**

Wall Street Journal (subscription) · Jul 7, 2017

# Publications

- Monthly Labor Review
- Beyond the Numbers
- Spotlight on Statistics
- Data Comparisons
- Department of Labor (DOL) blog posts
- CE Anthology

## Consumer Expenditure Survey Anthology, 2005



U.S. Department of Labor  
U.S. Bureau of Labor Statistics  
April 2005  
Report 561



# Recent Articles

## Beyond the Numbers

- Insight into mortgage instruments before and after the housing collapse
- Household healthcare spending
- Comparisons of United States consumer expenditures compare with the United Kingdom and Japan

## DOL Blog Posts

- Spending habits of older consumers
- Millennial Spending
- Bacon and ice cream



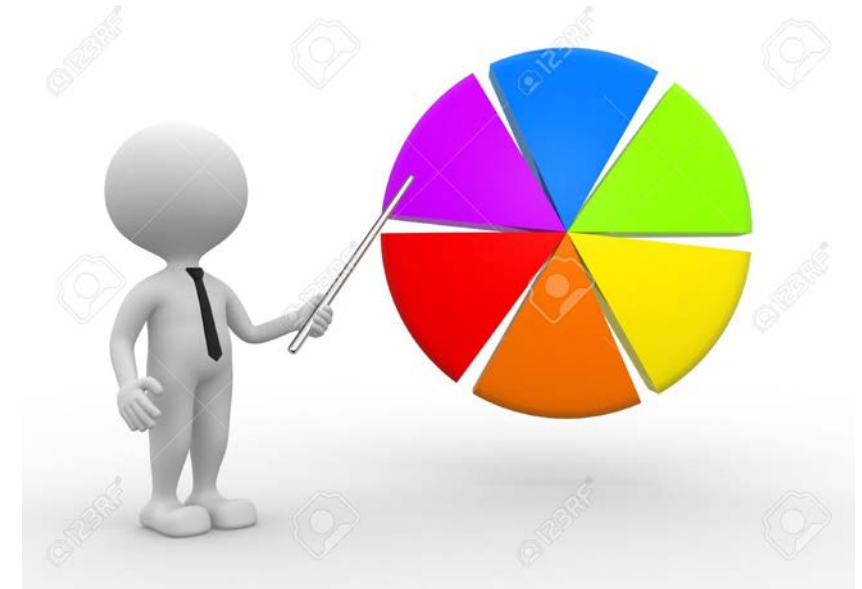
# Data Dissemination

- New Releases & Reports
- Public Use Microdata (PUMD) files
- Tables
  - ▶ Annual calendar year tables
  - ▶ Midyear tables
  - ▶ Multiyear tables
  - ▶ Cross-tabulated tables
  - ▶ Metropolitan statistical area tables
  - ▶ Region tables and area tables
  - ▶ High-income tables



# Outreach

- Survey Methods Symposium & Microdata Users' Workshop
- Conference Presentations
  - ▶ Midwest Economic Association (MEA)
  - ▶ American Council on Consumer Interests (ACCI)
  - ▶ Southern Economic Conference (SEA)
  - ▶ American Association for Public Opinion Research (AAPOR)
  - ▶ Joint Statistical Meetings (JSM)



# Modernization & Innovation



# Online Diary (prototype)

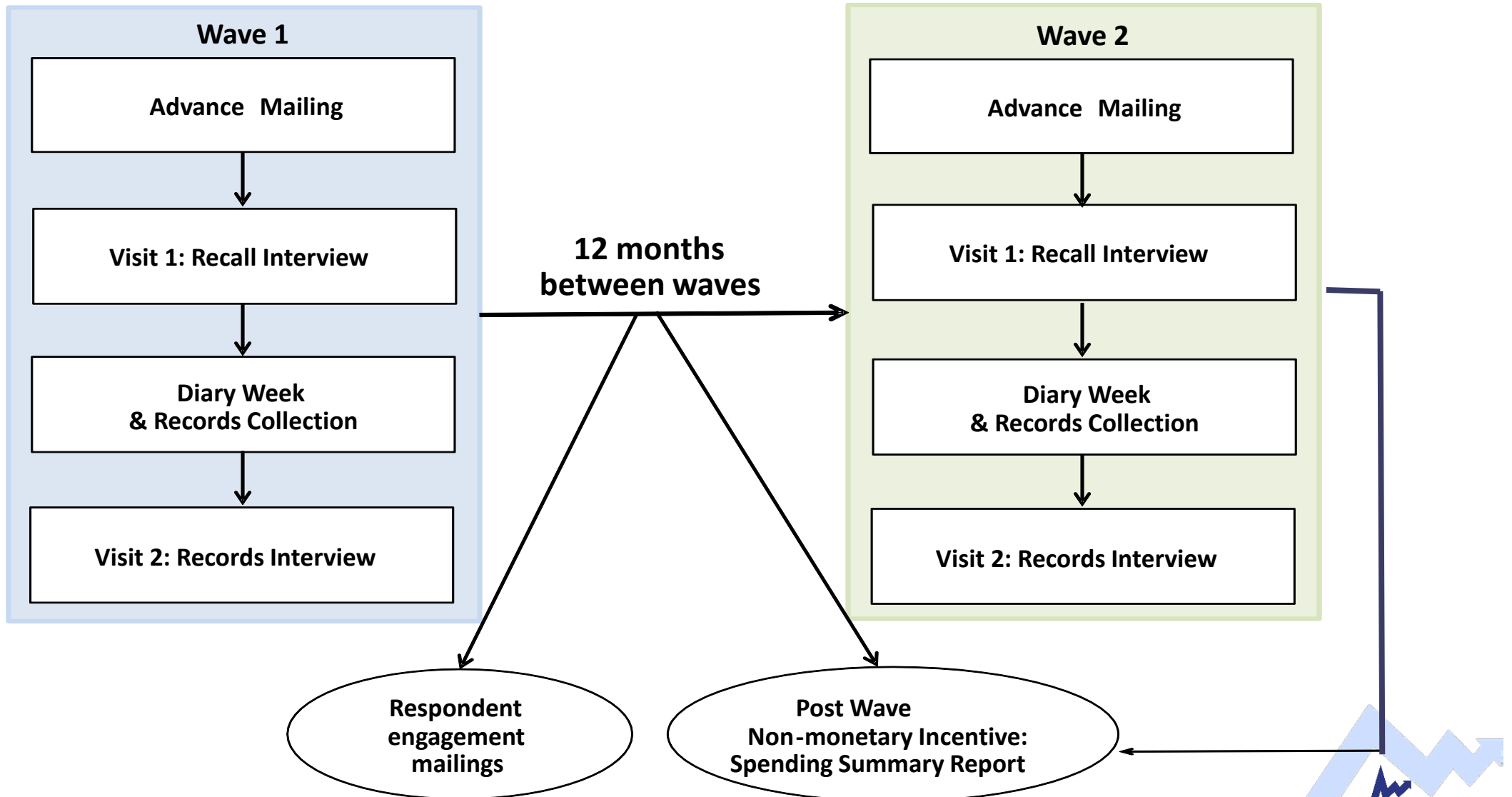
The screenshot shows the BLS Consumer Expenditure Diary interface. At the top, there is a dark blue header with the BLS logo on the left, the text "Consumer Expenditure Diary" in the center, and "Log out Contact us Help" on the right. Below the header, the main content area is divided into two columns. The left column is titled "Add Expenses" and contains a form with the following fields: "Date" (set to Saturday, March 18), "Type" (set to Meals, Snacks, and Drinks Away From Home), a "Details" section, a "Describe meal" text input field, a "Total cost (include tax and/or tip)" input field set to \$ 0.00, and radio buttons for "What meal was this?" (Breakfast, Lunch, Dinner, Snack/Other) and "Select any alcohol included:" (None, Beer, Wine, Other). At the bottom of this form are "Clear" and "Save" buttons. The right column is titled "My Expenses" and features a "View Members" link, a search bar, and a list of dates from Friday, March 17 to Thursday, March 23. The entry for Saturday, March 18 is expanded, showing "No expenses reported." Below this, the entry for Wednesday, March 22 is expanded, showing a transaction for "Transportation Expenses Gas - 20Gal" for \$43.98, with delete and edit icons.

The mobile app prototype features a dark blue header with the BLS logo, "CE Diary", and "Log out Contact us" links. Below the header is a blue bar labeled "Add Expenses". The main content area includes a "Date" dropdown menu set to "Saturday, Mar 18", a "Type" dropdown menu set to "Meals, Snacks, and Drinks Away From Home", and a "Details:" section. The "Describe meal" section has an information icon and a text input field. The "Total cost (include tax and/or tip)" section has an information icon and a text input field set to "\$ 0.00". The "What meal was this?" section has radio buttons for Breakfast, Lunch, Dinner, and Snack/Other. The "Select any alcohol included:" section has checkboxes for None, Beer, Wine, and Other. At the bottom of the screen are three circular navigation buttons: "Back", "Clear", and "Save".

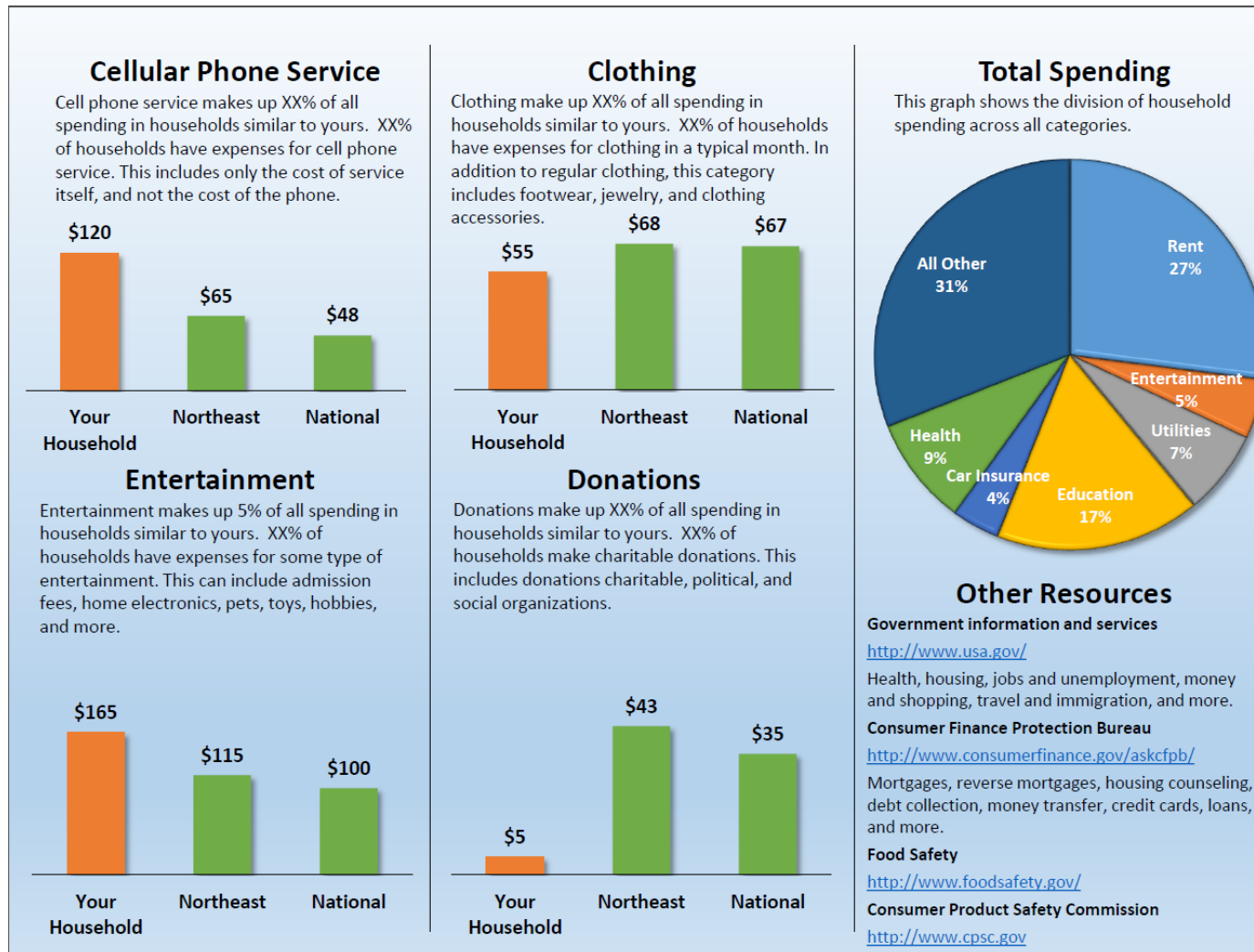




# Gemini Redesign Plan

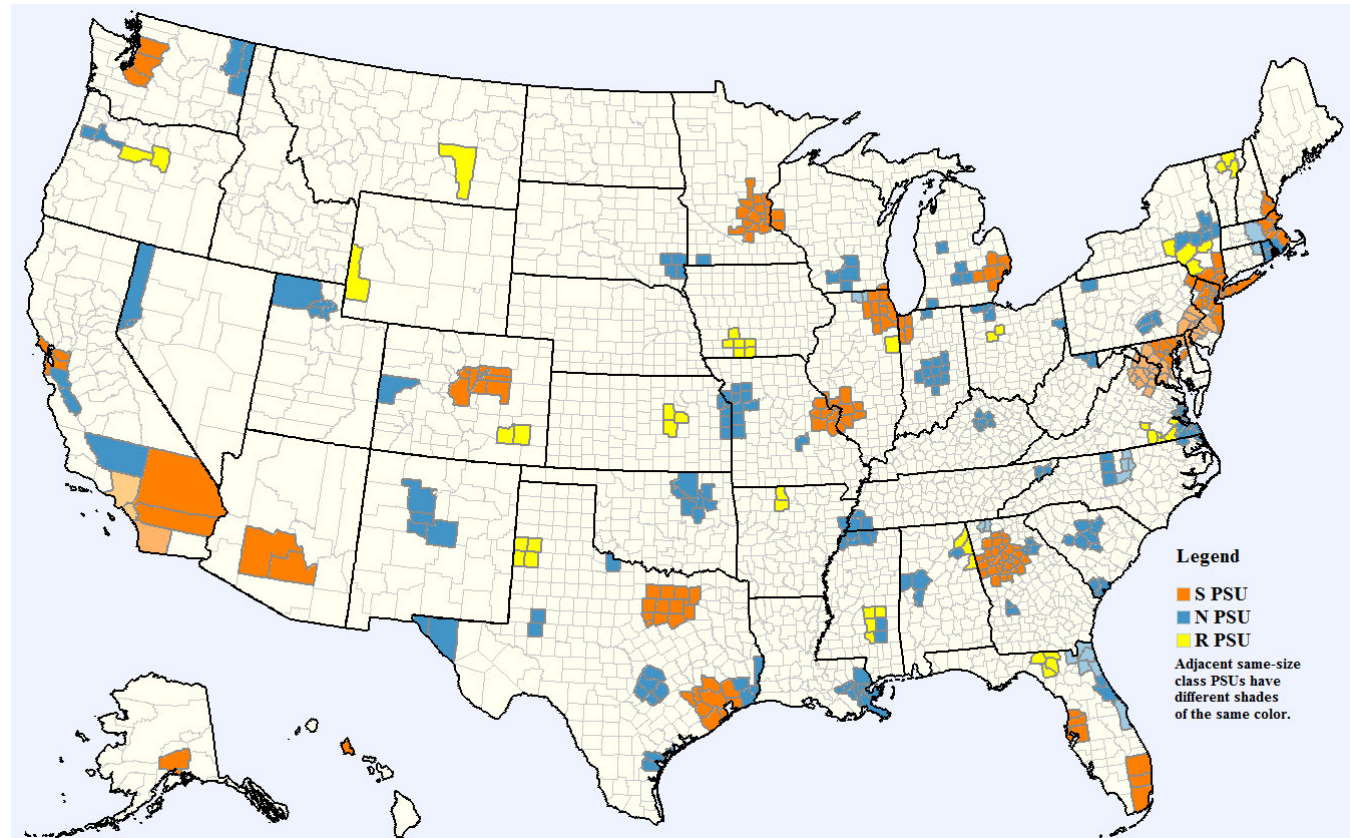


# Spending Summary Report (prototype)



# Experimental State Weights

## Simulated Design of 2010 CE PSUs



# Online Interactive Tools

## Interactive CE Visualization Tool - 2015 Data

**Demographic Categories**

- Region
- Number of people in CU
- Home Owner / Renter
- CU income range
- Highest level of education in the CU
- Race of the reference person

**Subcategories**

**Region**

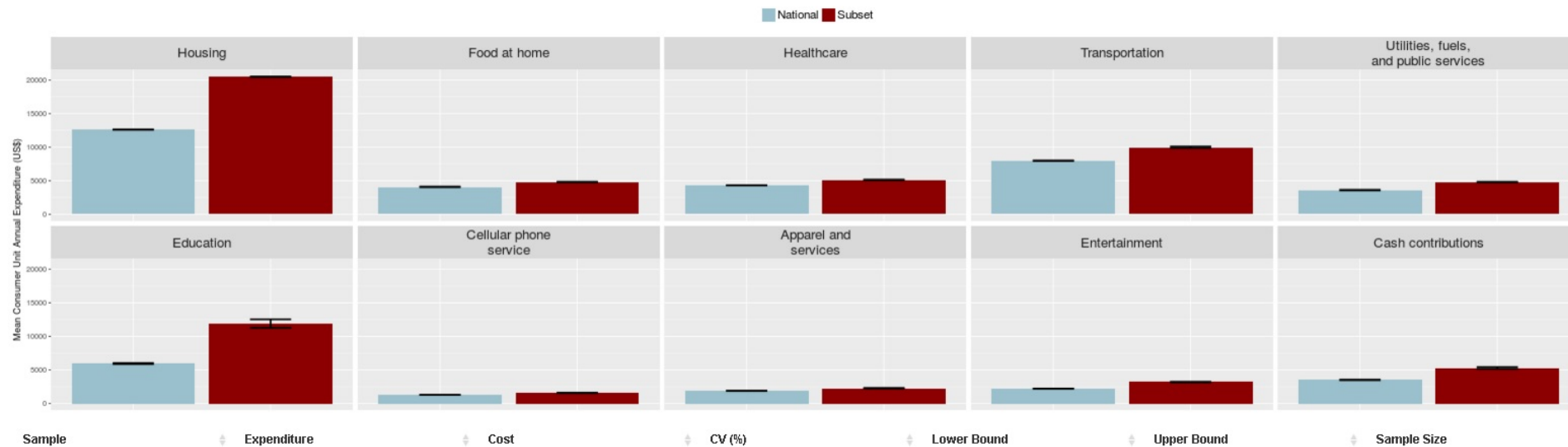
**Highest level of education in the CU**

**Options**

Independent scales

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Number of households in your sample:  
1205



# Consumer Expenditure Surveys Program

*[www.bls.gov/cex](http://www.bls.gov/cex)*

202-691-6900

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