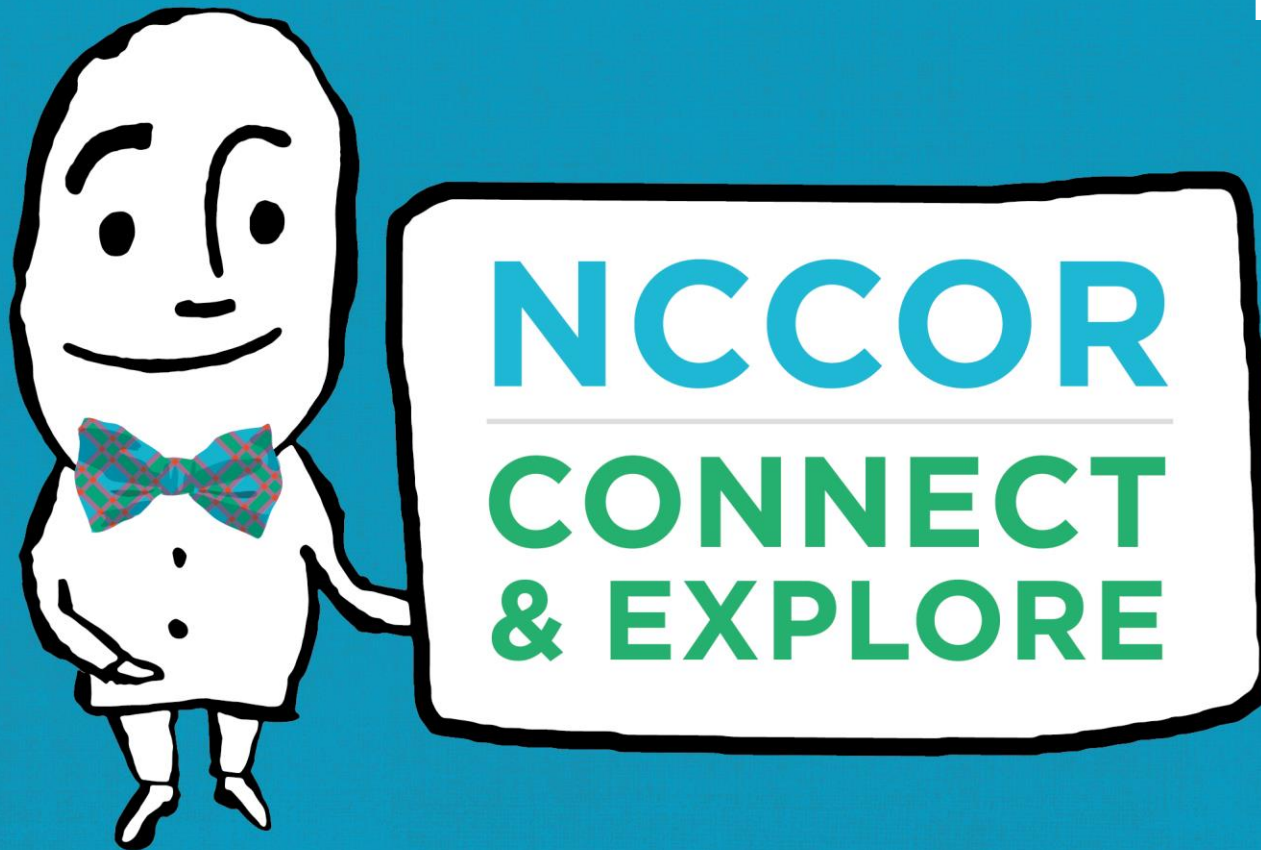


May 23, 2019

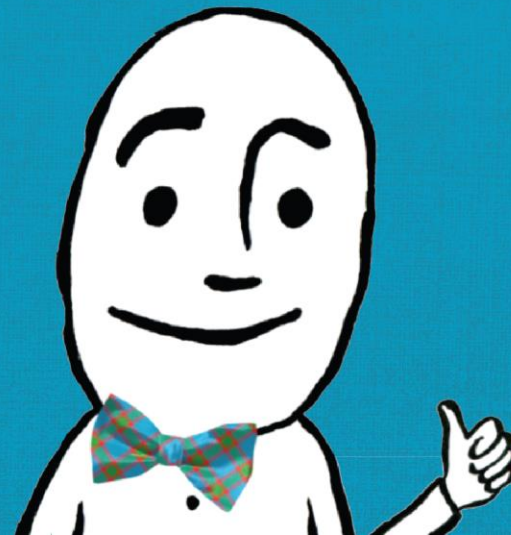


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We will begin at 3:05 to allow participants time to join the webinar.

1. Spotlight: From Purchase to Plate: Linking USDA Nutrition Data with Retail Scanner Data to Assess the Healthfulness of America's Food-at-Home Purchases
2. One on One

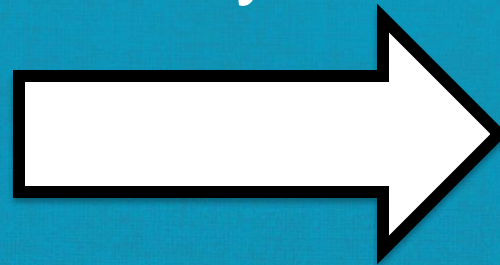
TODAY'S PROGRAM



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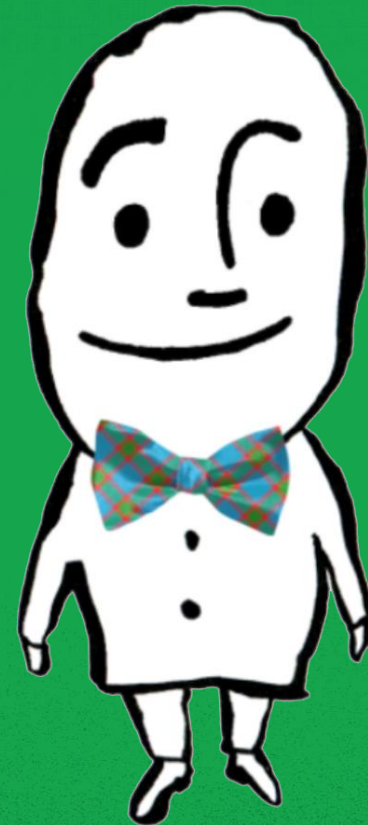
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Today's Speaker



Andrea Carlson
Economist
USDA Economic Research Service

INTERACTIVE POLL





Purchase to Plate Crosswalk: Linking scanner data to USDA nutrition databases

Andrea Carlson, PhD

Elina Page, PhD

USDA Economic Research Service

The findings and conclusions in this preliminary presentation have not been formally disseminated by the U.S. Department of Agriculture and should not be construed to represent any Agency determination or policy. The views expressed here cannot be attributed to IRI.



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Linking USDA Nutrition Databases to IRI Household-Based and Store-Based Scanner Data

Andrea C. Carlson, Elna Tzelepidakis Papp, Thea Palmer Zimmerman, Carina E. Tornow, and Sigurd Hermanson



<https://www.ers.usda.gov/publications/pub-details/?pubid=92570>

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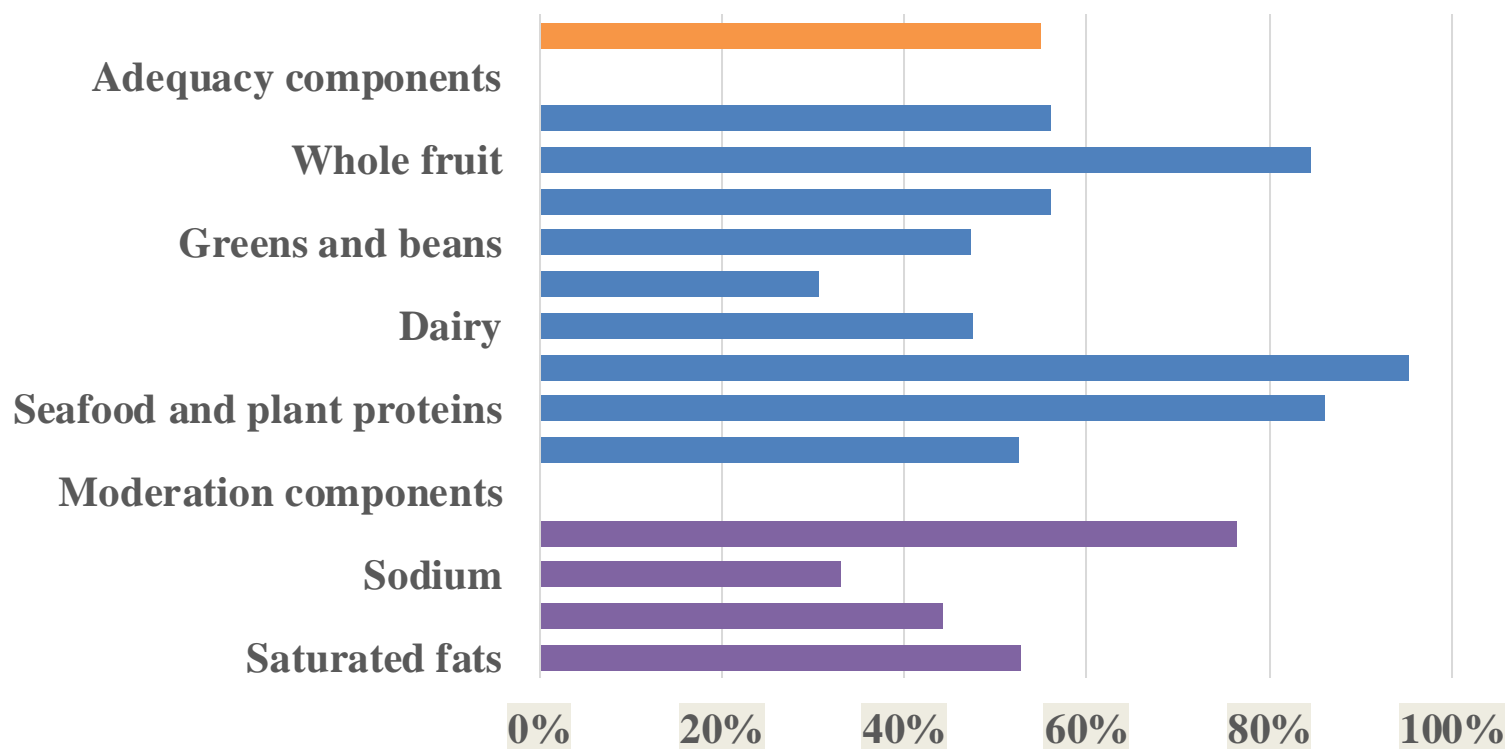
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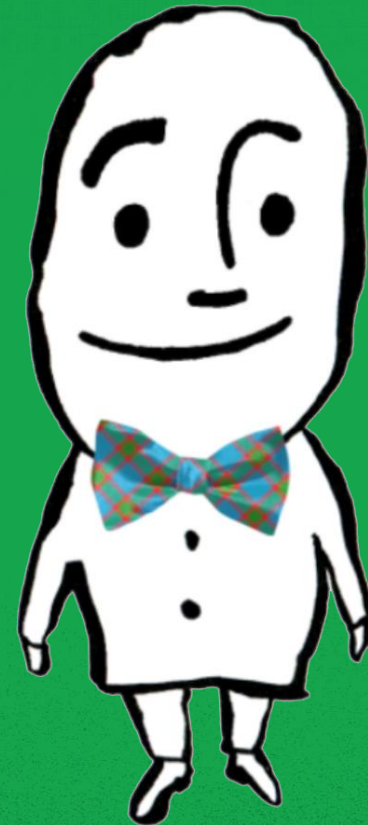
Thea Palmer Zimmerman
Carina E. Tornow
Sigurd Hermansen

Healthy Eating Index, 2015 (HEI-2015)



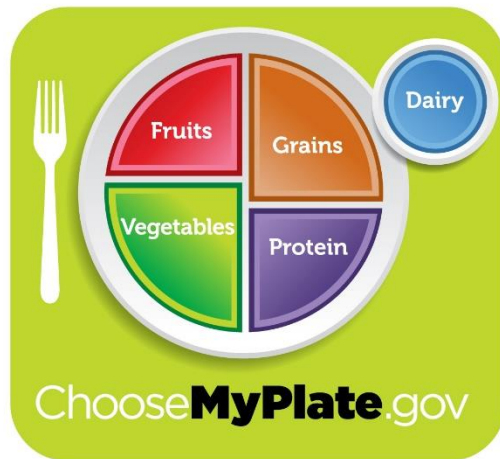
Healthy Eating Index (HEI-2015) scores, percent of maximum score

INTERACTIVE POLL



Goals of the Purchase to Plate Crosswalk

1. Import the USDA nutrition data, especially the food group data, into scanner data.
2. Use scanner data to estimate prices for What We Eat in America/National Health and Nutrition Examination Survey (WWEIA/NHANES) foods.



IRI Retail Scanner Data: InfoScan

- Used for marketing research
- Purchase transaction records collected from store scanner systems
- Quantity and dollar sales by UPC by store by week
- About 6.5 billion transaction records per year



IRI Household-based Scanner Data: The Consumer Network

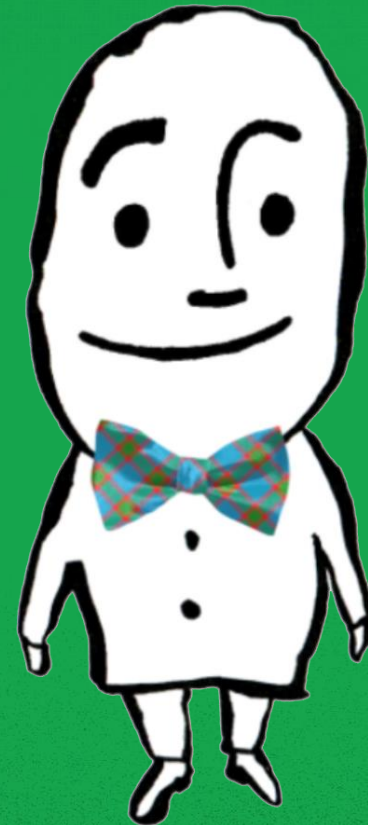
- Households scan the barcode of purchases
- Itemized food-at-home purchases for 120,000 households
- Household demographics
- Supplementary health information and prescription drug surveys



Information found in both InfoScan and The Consumer Network

- **Product Dictionaries (PD):**
 - Detailed product information for one million products
 - Nutrition facts label for products with high sales
- **Retail store information**

INTERACTIVE POLL

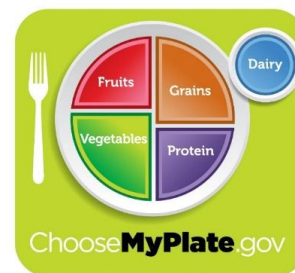


USDA Nutrition Data



Food and Nutrient Data for Dietary Studies (FNDDS)

- Provides nutrient values for foods and beverages
- 2011-12 includes about 8,000 foods for What We Eat in America (WWEIA)



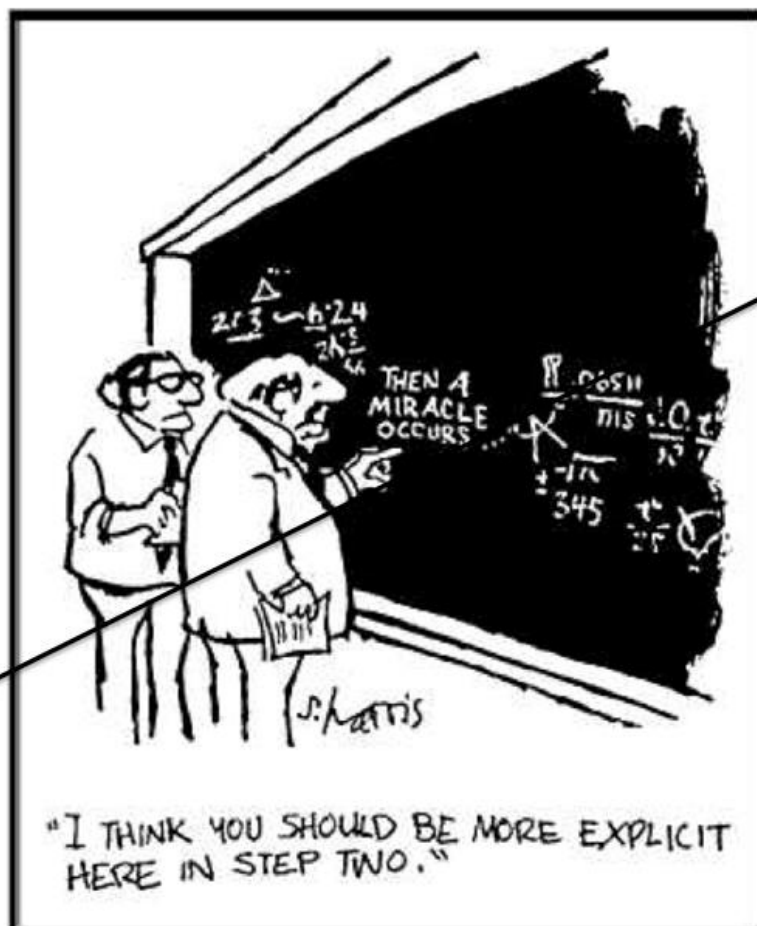
Food Pattern Equivalent Database (FPED)

- Converts foods and beverages in the FNDDS to USDA Food Pattern components
- Used to evaluate dietary intake data with respect to the *Dietary Guidelines for Americans*

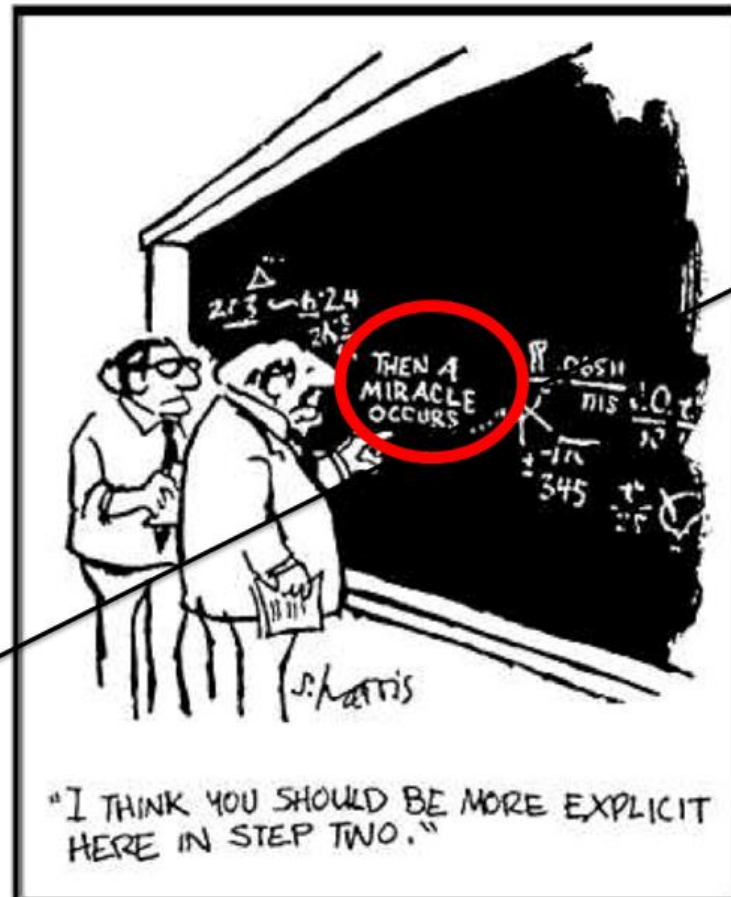
Scanner and USDA Data

	IRI Scanner Data 2013	FNDDS 11-12
Primary use	Market research	Monitor and study the nutrient and food pattern equivalents of the American diet
Number of items	899,850	7,618 (FNDDS) 3,101 (SR)
Database structure	Multiple variables, each column has similar information for every observation (wide format)	Main text description, plus multiple rows added as-needed (long format)
Form of item (product weight)	Purchase form (weight can include both edible and non-edible parts)	Raw or cooked (weight does not include inedible parts)

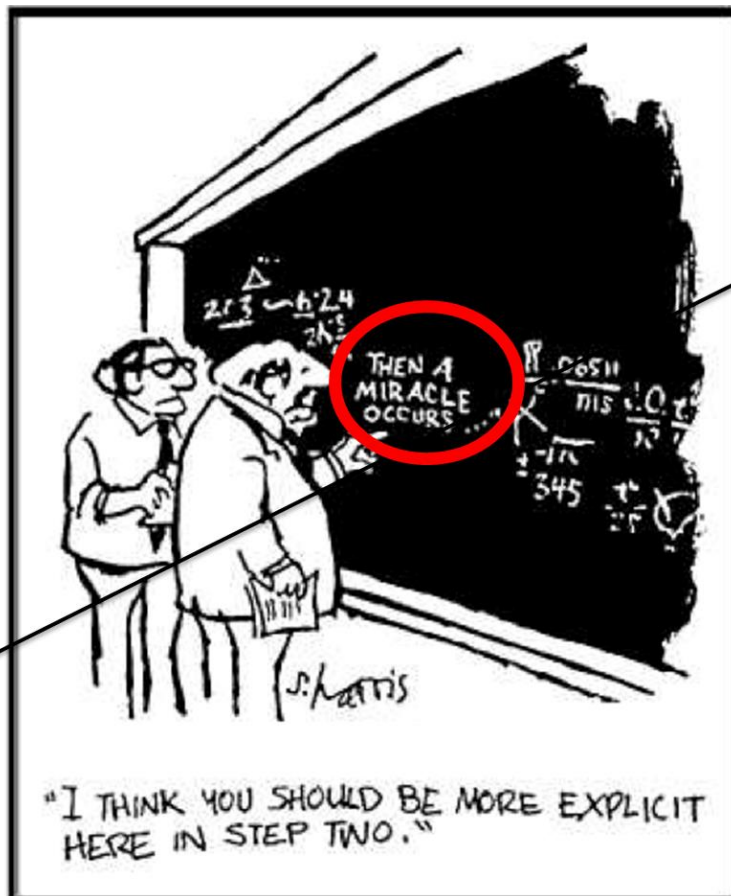
Scanner Data



Scanner Data



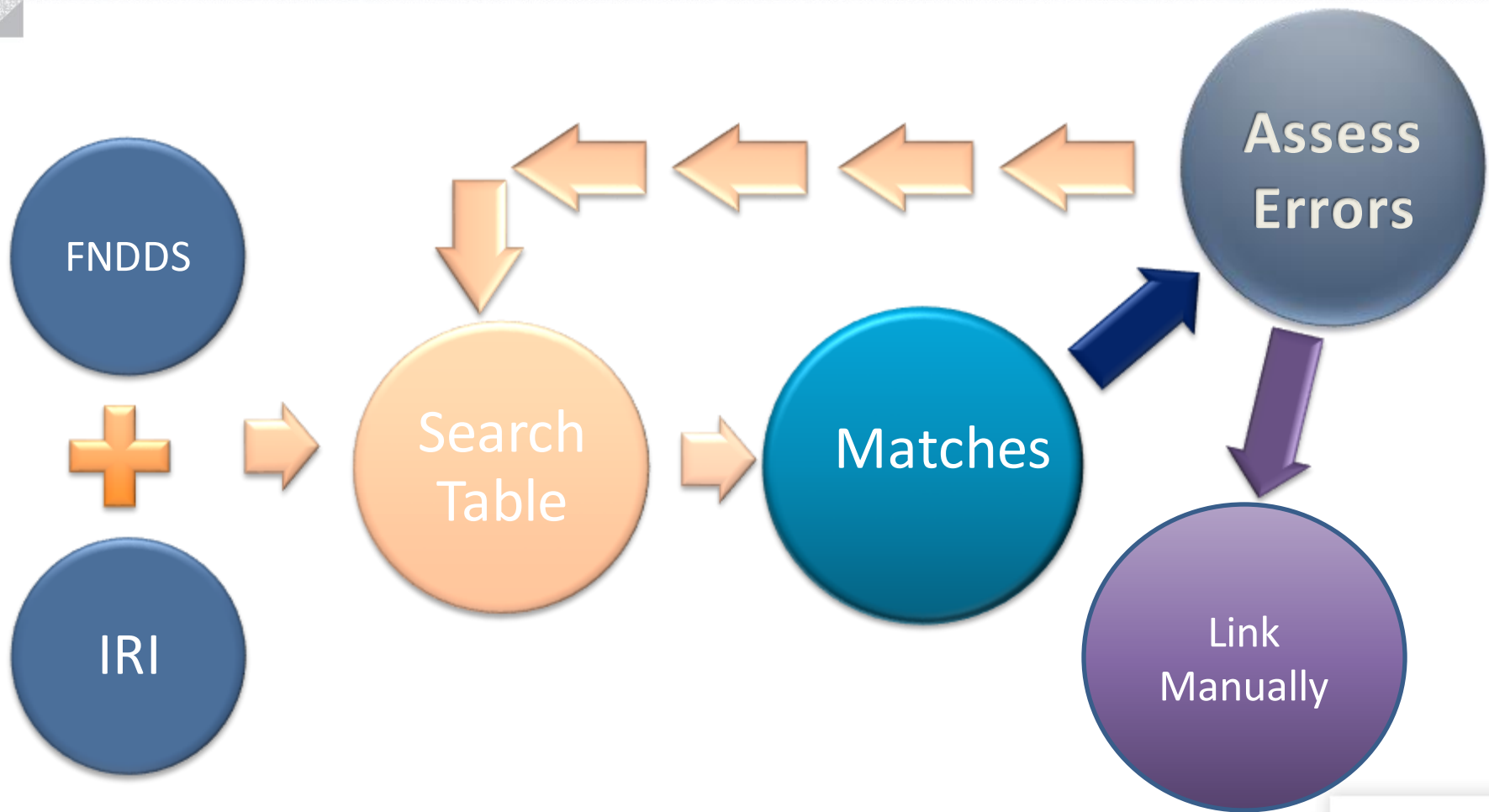
Scanner Data



Semantic Matching –
compare text strings for
similar terms

Probabilistic Matching –
based on product attributes,
calculate a similarity score for
each possible match.

Methods



Linking Table

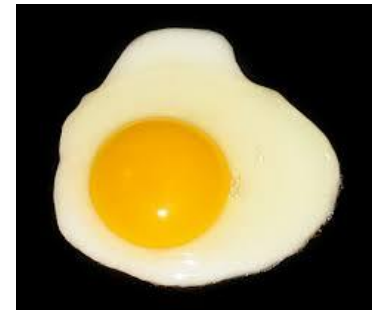
UPC*	USDA Foodcode	USDA description
00112131722901	82105750	CANOLA AND SOYBEAN OIL
00225060332501	81203000	SHORTENING, NS AS TO VEGETABLE OR ANIMAL
00476621234026	11333	PEPPERS, SWEET, GREEN, RAW
00339030622005	63135140	PEACH, COOKED OR CANNED, IN LIGHT OR MEDIUM SYRUP
00343117658901	63135140	PEACH, COOKED OR CANNED, IN LIGHT OR MEDIUM SYRUP
00414090023801	-99	No match available

* Not actual UPCs

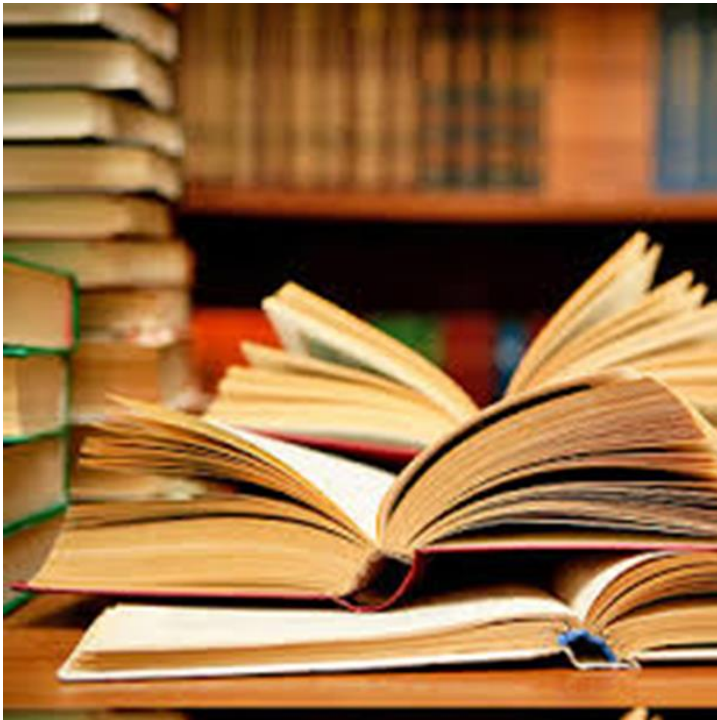
IRI Product Dictionary



USDA Nutrition Databases



Yield Factors are UPC-based



359,572 yield factors from:

- FNDDS
- SR
- FICRCD
- Agriculture Handbook 102
- Market Checks

The Purchase to Plate Crosswalk

- Matches between 650,592 UPCs matched to 4,390 FNDDS and SR food codes, representing
 - 5.9 billion transactions in retail scanner data
 - 46.6 million transactions in the household-based scanner data
 - High percent of total sales available to USDA
- Yield factors for 359,746 UPCs, representing UPCs with
 - Sales in the 2013 InfoScan
 - Enough product information to define a conversion factor

Coming soon: Purchase to Plate Price Tool

- National average prices or subset of scanner data such as the type of store
- Calculate prices for 3,541 foods reported by participants in WWEIA/NHANES 11-12
- 96 percent of reported food eating occasions

Purchase to Plate 2015 updates (coming soon)

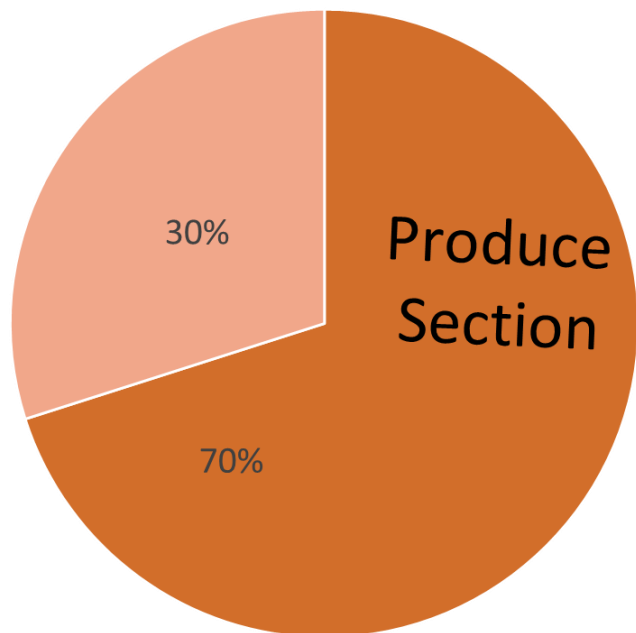
- Include InfoScan (retail) and The Consumer Network (household) data.
- Ability to calculate the as-purchased weight from the as-eaten weight of WWEIA/NHANES food.

Initial Results

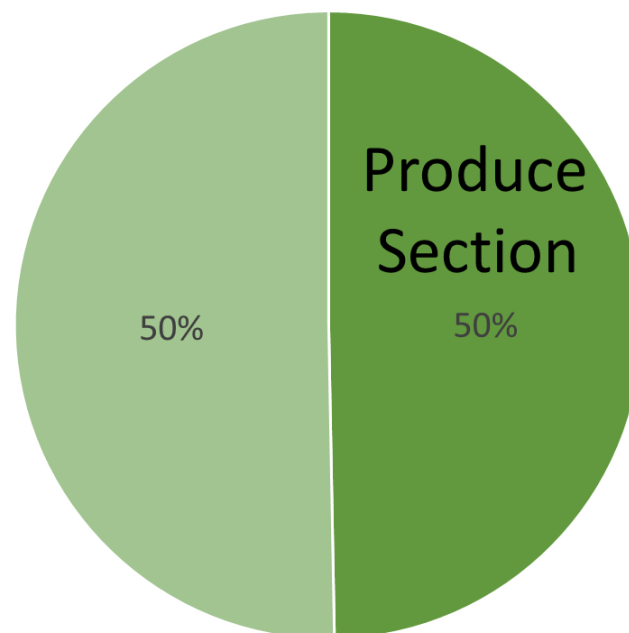
- Where are fruits and vegetables sold in the store?
- Other questions under consideration

Share of Cup Equivalents

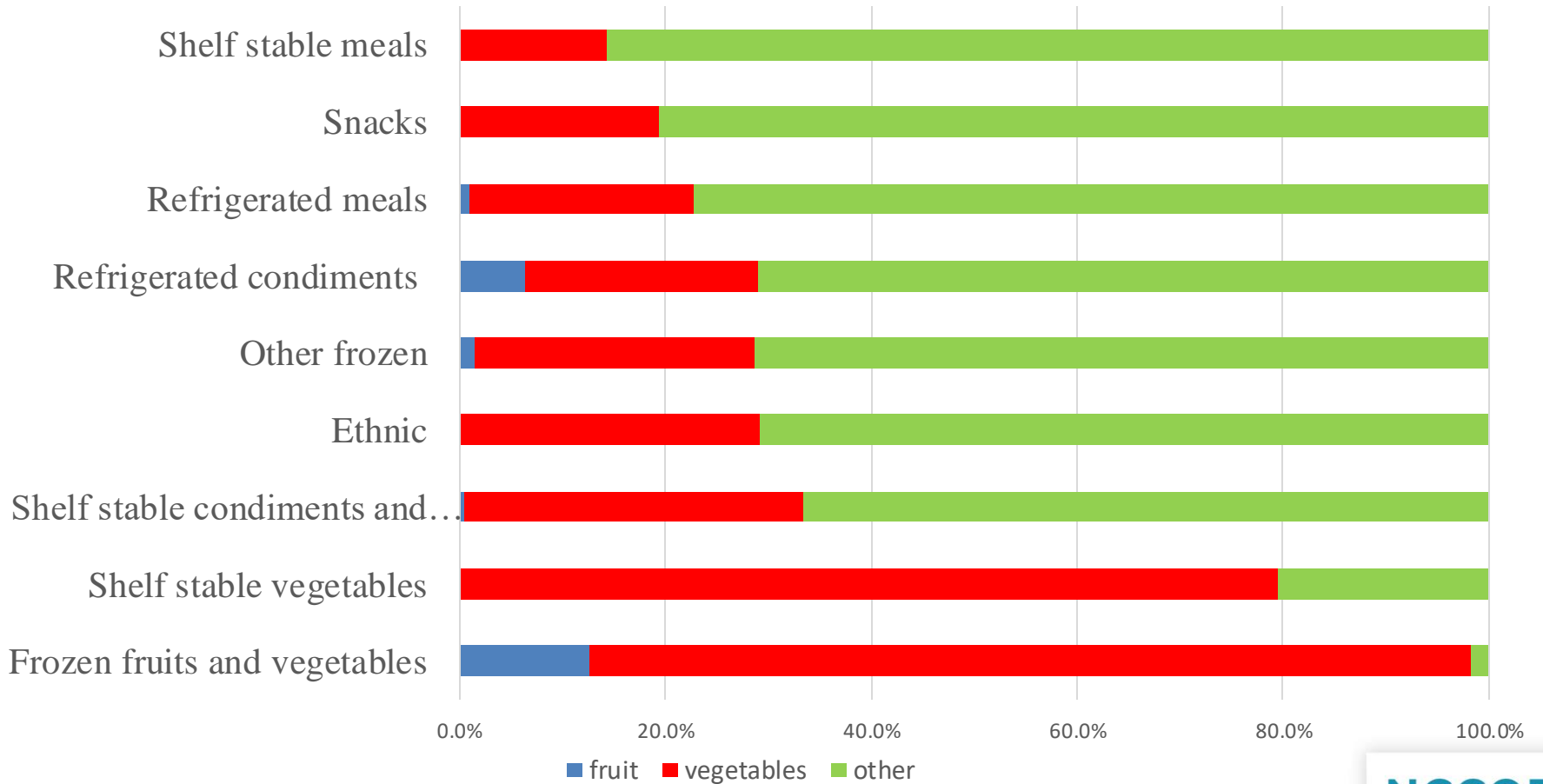
Fruit



Vegetables



Vegetables in the store



Questions under Consideration

- What are the major sources of added sugar in our food purchases, and who purchases them?
- What is the projected impact of the new added sugar label on breakfast cereal purchases?
- Does media coverage on healthy diets impact food purchases?
- How healthy are convenience and easy-to-prepare foods?
- Are there differences in healthfulness of available foods in food deserts versus other locations?

Limitations

- Food purchase, not food intake
- Nutrients and food pattern equivalent data represent an average of many products. Imported data are not UPC specific.
- Not all stores allow USDA access to their private label sales or product information.
- 2013 version does not cover all products in the household scanner data.

Access to the PPC

- IRI data are proprietary data
- Current USDA purchase agreement allows access to:
 - USDA staff
 - Collaborators with USDA staff
 - Researchers funded by USDA grant or cooperative agreement
 - Research questions must be of interest to USDA
- Access is granted through a secure enclave

Filling a Gap

Purchase to Plate Crosswalk fills an important gap in research on food choices and obesity

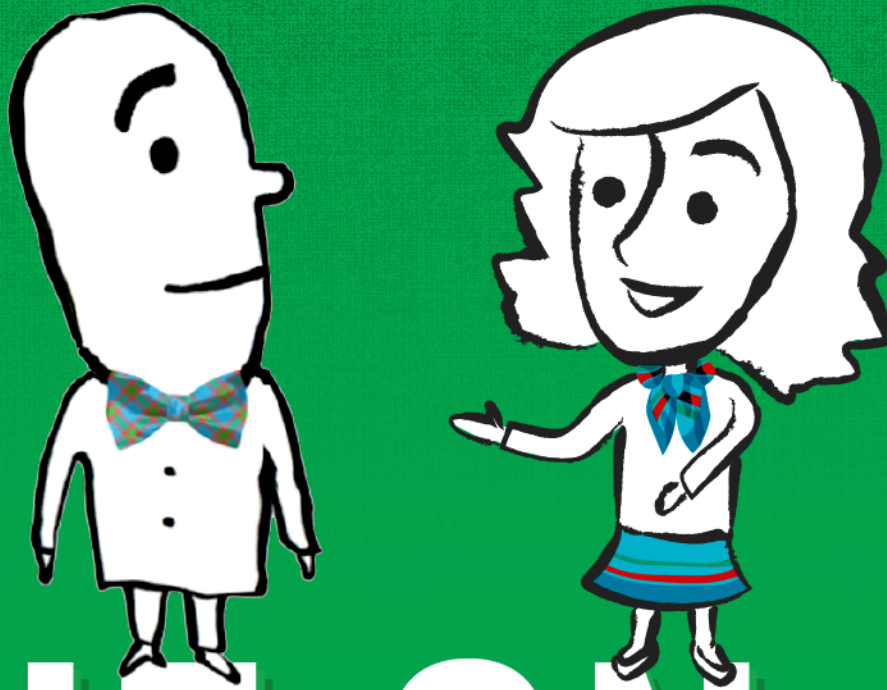
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ONE ON ONE

THANK YOU!



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