NCCOR CONNECT & EXPLORE

October 9, 2014

We will begin at 2:05 to allow participants time to join the webinar
• Spotlight—Insights into Landmark Calorie Declines in the U.S. Food Marketplace
• One on One
• Funding Opportunity
Have a question or need technical assistance?

Type your question(s) in the chat box located on the left and a representative will respond shortly.
Today’s Panel

**Todd Phillips**
Director
National Collaborative for Childhood Obesity Research

**Tracy Orleans**
Senior Program Officer/Senior Scientist
Robert Wood Johnson Foundation

**Shu Wen Ng**
Assistant Professor
Gillings School of Public Health
University of North Carolina, Chapel Hill
6.4 Trillion Calories Cut From Unhealthy Grocery Store Foods

Sixteen food and drink companies have banded together to tackle the obesity crisis.

Sayonara To 'Super-Size Me?' Food Companies Cut Calories, So Do We
by ALLISON AUBREY
September 25, 2014, 9:24 AM ET

Households with kids ate less junk food in 2012 than '07, report says
Insights into Landmark Calorie Declines in the U.S. Food Marketplace:

Tracking Our Foods From Factory to Fork

Shu Wen Ng, PhD
University of North Carolina at Chapel Hill
UNC Food Research Program (UNCFRP)
Sixteen major consumer packaged goods (CPG) food and beverage manufacturers pledged to cut sales by 1.5 trillion calories by 2015 relative to 2007 (including 1 trillion calories by 2012).

- How do we measure this?
- Who might be most affected? Children; SES subpopulations
- Compare HWCF to non-HWCF brands and private labels (store brands)
- Actual reduction (via reformulation and/or lower caloric options), or other economic or market forces driving the change?

Robert Wood Johnson Foundation (RWJF) funded independent evaluations

- Calories Sold: 2007 vs 2012
- Effect of HWCF pledge on purchase disparities: 2007-2013
- Effect of HWCF pledge on diet and BMI disparities: 2007-2012
How to Measure? Items Sold/Purchased

Items sold/purchased from HWCF vs. others (barcode level)

**Nielsen Scantrack point-of-sale**
- Stores represented: food, drug, mass; convenience
- 52 markets; projected to be nationally representative of F/D/M+C
- Sales data of each barcode (product description, brand, manufacturer)

**Nielsen Homescan household purchases**
- Disaggregated data of each barcode purchased at every reported shopping episode (date, store, price)
- Across 35-60K households from 76 markets; household weights for national representativeness
- Annual demographic information allows us to study specific populations

**ID HWCF vs. non-HWCF brands vs. private labels (PL) over time**
- Brands often acquired/sold from one company to another
- New product lines/brands; retiring product lines/brands
How to Measure? Calories (& Other Nutrients)

Calories (and other available nutrients) of each item

**Nutrition Facts Panel (barcode level) data**
- Multiple sources; records go back to 1996; constantly updated
- Serving size and nutrient information
- Ingredient list
- Pack size and weight information
- Claims

**Merge with Nielsen Scantrack & Homescan**
- Based on UPC and NFP date-stamp

---

Evaluations on Sales and Purchases

Two new papers in *American Journal Preventive Medicine*


What does this mean for diets (intake) and ultimately child obesity?

- Next steps: Measuring how CPG changes affect diets via factory to fork system
Per Capita Calories Reported Consumed (WWEIA 2001-2010) for All Americans Aged 2+ Years vs. Caloric Purchases Per Capita from CPGs (Homescan 2000-2011)

Unclear if changes over time are due to:
- Recessionary economic climate
- Food price changes
- Demographic changes
- Secular trends (changes in consumer preferences)

Longitudinal model using Homescan data controlling for:
- Unemployment
- Deflated food prices
- Household composition, race/ethnicity, income, education
- Time

Year Effects Are Strongly Negative and Statistically Significant, Especially for Households with Children

Shown values are all statistically different from 2000 at p>0.001. Controls for household composition by age and gender, income, education, race/ethnicity, food prices, and unemployment.

Ng SW, et al. 2014. Amer J Clinical Nutrition
Marginal effect of NH-Black households relative to NH-White households on calories purchased/capita/day

Shown values are all statistically different from 2000 at p>0.001. Controls for household composition by age and gender, income, education, food prices, and unemployment.

Ng SW, et al. 2014. Amer J Clinical Nutrition
Marginal effect of Hispanic households relative to NH-White households on calories purchased/capita/day.

Shown values are all statistically different from 2000 at p>0.001.
Controls for household composition by age and gender, income, education, food prices, and unemployment.

Ng SW, et al. 2014. Amer J Clinical Nutrition
Measuring How CPG Changes Affect Diets

Factory to Fork: Barcode to USDA Food Code Crosswalk

Packaged Foods & Beverages (UPCs)

- Brand A Chocolate Milk (2% Fat)
- Brand B Chocolate Milk (2% Fat)
- Brand C Chocolate Milk (2% Fat)
- Brand D Chocolate Milk (2% Fat)

Chocolate Milk (2% Fat)
USDA food code 71201010

Composite Nutrient Profile Weighted by Purchase Volume

UNCFRP creates a new Nutrient Profile for each USDA food code. The composite Nutrient Profile is weighted by sales volume of all UPCs linked with that USDA food code.

<table>
<thead>
<tr>
<th>UPC Description</th>
<th>Sales (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand A</td>
<td>40%</td>
</tr>
<tr>
<td>Brand B</td>
<td>30%</td>
</tr>
<tr>
<td>Brand C</td>
<td>20%</td>
</tr>
<tr>
<td>Brand D</td>
<td>10%</td>
</tr>
</tbody>
</table>

Factory to Fork: Key Findings

- When UNCFRP nutrient profile is applied to reported consumption:
  - Small, significant differences in consumption compared to USDA's FNDDS 4.1
- 2007-2008 (baseline) differences not expected to be large
- Value and importance of UNCFRP Nutrient Database is in capturing changes (in product offerings and formulations of existing products) over time
- Ability to create subpopulation specific nutrient profiles using subpopulation specific purchase weights
- Completing 2007-2008 and moving to 2009-2010 and 2011-2012 soon with completion by fall 2015

<table>
<thead>
<tr>
<th>Food/Beverage Groups</th>
<th># USDA food codes</th>
<th># UPC codes linked to USDA food codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar Sweetened Beverages</td>
<td>50</td>
<td>14,567</td>
</tr>
<tr>
<td>Energy Drinks</td>
<td>10</td>
<td>641</td>
</tr>
<tr>
<td>Sports Drinks</td>
<td>4</td>
<td>519</td>
</tr>
<tr>
<td>Fluid milk</td>
<td>58</td>
<td>8,839</td>
</tr>
<tr>
<td>Fruit juice</td>
<td>46</td>
<td>9,373</td>
</tr>
<tr>
<td>Yogurt products</td>
<td>17</td>
<td>6,645</td>
</tr>
</tbody>
</table>

Critical Issues that We Can Begin Addressing

A. Identify new products and formulations that emerge

B. Measure degree of processing and convenience and their nutritional implications

C. Understand where people shop and nutritional implications

D. Understand sodium trends and sources

E. Estimate added sugars in products, purchases, and diets

Select examples in the next slides
Information on this slide has been temporarily removed, pending publication in academic journals.
A2. Examine Degree of Reformulation

Monitor changes in nutrient density of Grain Based Dessert (GBD) products

- Energy and sugar density of GBD products remained the same (2005-2012)
- Increase in saturated fat density

<table>
<thead>
<tr>
<th></th>
<th>Percentiles</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10th</td>
<td>50th</td>
</tr>
<tr>
<td>Energy Density (kcal/100 g)</td>
<td>2005</td>
<td>314</td>
</tr>
<tr>
<td></td>
<td>2012</td>
<td>306</td>
</tr>
<tr>
<td>Sat Fat Density (g/100 g)</td>
<td>2005</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>2012</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Information on this slide has been temporarily removed, pending publication in academic journals.
Factory to Fork: Extensions

Improved and more timely understanding of changing nutrient composition (calories, sodium, added sugars) of 600,000 CPGs and their impact on individual dietary intake once crosswalk completed for 2007-2012

- Children of various race/ethnicity, maternal education, SES
- Are there certain food groups where largest changes are coming from?

Distributions of dietary intake (focus on top end)

- Usual intake adjustments to each individual using NCI method
- Quantile regressions to look at differential affects at different points on the intake distribution
- Build off earlier work by Mendez et al (J Nutr 2014) to evaluate effect of industry changes on usual dietary intake over time, then determine BMI/obesity change
Acknowledgments

Expert Advisory Committee
• Steven Gortmaker (Chair), Harvard University
• Frank Chaloupka, University of Illinois in Chicago
• Lisa Powell, University of Illinois in Chicago
• Jennifer Seymour, CDC
• Anna-Maria Siega-Riz, UNC Chapel Hill
• Mary Story, Duke University
• Jay Variyam, Economic Research Services, USDA
• Y. Claire Wang, Columbia University

Program Advisors
• Sue Krebs-Smith, NCI
• Shiriki Kumanyika, University of Pennsylvania

RWJF
• Elaine Arkin, RWJF
• James Marks, RWJF
• C. Tracy Orleans, RWJF
Our UNCFRP Team

Barry Popkin, PhD; PI
Shu Wen Ng, PhD; PI
Phil Bardsley, PhD
Greg Bricker, MSc
Jessica Davis, MPH, RD
David Guilkey, PhD
Bridget Hollingsworth, MPH, RD
Kuo-ping Li, PhD
Michelle Mendez, PhD
Donna Miles, PhD
Meghan Slining, PhD
Daniela Sotres-Alvarez, PhD
Julie Wandell, MPH, RD
Emily Yoon, MPH, RD

Doctoral Students (not funded via grants)
Carmen Piernas (graduated)
Kevin Mathias (graduated)
Jennifer Poti (All But Dissertation)
Lindsey Smith (ABD)
Dalia Stern (ABD)
Chris Ford (ABD)
Elyse Powell

FUNDING
RWJF (2010-2015)
NIH (2013-2018)
Thank you!

Contacts:
Shu Wen Ng: shuwen@unc.edu
Barry Popkin: popkin@unc.edu

www.uncfrp.org
Follow us on Twitter! @UNCFRP
ONE ON ONE
Questions?

Please type your question(s) in the chat box located on the left.
Question:

What other insights can the data offer?
Estimate added sugar content of products
- In labs, added sugars are not distinguishable from intrinsic sugars (e.g., lactose in milk)
- Similar method used by USDA for imputing missing nutrient values
- Uses Nutrition Fact Label information on nutrients per serving, serving sizes, and ingredient lists (ordered by weight)

Identify added sugars; operational definitions may change under new FDA regulations
- Fruit juice concentrates? Fruit juice?
- Batch-mode allows use to change parameters as needed

Done for CPG beverages purchased in 2007-2008; working on CPG foods

Next steps
- Expand to other years to estimate amounts of added sugars in products over time
- Estimate amounts of added sugars in purchases over time
- Estimate amounts of added sugars in diets over time

Information on this slide has been temporarily removed, pending publication in academic journals.
Question:
What kinds of surveillance opportunities are now possible?
A3. Identifying Presence of Sweeteners

In NHANES, products that contain both low-calorie sweeteners (LCS) and caloric sweeteners (CS):

- Cannot be identified as the descriptions only indicate one sweetener or the other;
- Likely not included in food composition tables as these are newly introduced; or
- Misclassified as LCS or CS.

In Nielsen-NFP data, can identify products that contain CS, LCS and both using ingredient lists:

Question:

How does this data shed light on opportunities to collaborate with industry leaders to find solutions that benefit both the health of Americans and companies’ bottom line?
Questions from the Audience
FUNDING OPPORTUNITIES
Understanding Factors in Infancy, Early Childhood (Birth to 24 months) that Influence Obesity Development (R01)

- **Funder:** NIH
- **Open date:** Jan. 5 (earliest submission)
- **Purpose:** To identify novel risk factors in early childhood that influence obesity and/or to fill methodological/measurement research gaps relevant to understanding the development of obesity in children.
- **Note:** Applicants requesting more than $500,000 direct costs in any year must contact NIH program staff at least six weeks before submission, and follow all applicable policies.
Further Questions?

Other questions about funding opportunities generated by NCCOR’s funders?

• Email the NCCOR Coordinating Center at coordinatingcenter@nccor.org, and we’ll get you the answer.
Thank you!
We Want Your Feedback!

• Please consider completing a brief, five-question survey.
• Your responses will help shape future webinars and maximize attendees’ time.
• We’ll switch over to the Feedback Form momentarily. You can write-in your input on the screen and hit submit.
• IT’S EASY!!!