February 20, 2020

Connecting you with experts. Exploring the latest childhood obesity news and research.

NCCOR CONNECT & EXPLORE

NATIONAL COLLABORATIVE ON CHILDHOOD OBESITY RESEARCH
1. Spotlight: Click, Click, Cook: Online Grocery Shopping Leaves “Food Deserts” Behind
   • Dr. Eric Brandt
   • Jerold Mande

2. One on One

3. NCCOR Announcements
Need technical assistance? Have a question for our speakers?

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

Dr. Eric J. Brandt
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@JerryMande
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INTERACTIVE POLL
SPOTLIGHT
Grocery Delivery for SNAP Recipients: Irrigating Food Deserts
2014 Farm Bill mandated the Online Purchase Pilot (OPP)
2014 Farm Bill mandated the Online Purchase Pilot (OPP)
Importance
Aim:

Determine how many food deserts in the eight Online Purchase Pilot (OPP) states (and households within them) are located within current grocery delivery areas.
Methods

1. Identify food deserts
2. Identify delivery areas
3. Quantify food desert delivery availability
Method 1: Identify food deserts

USDA Economic Research Service Food Desert Atlas

= 

Low income

Limited access to grocery stores

Low vehicle availability
Method 1: Identify food deserts
Method 1: Identify food deserts

- USDA Economic Research Service Food Desert Atlas
- Housing and Urban Development crosswalk files

Census Tract → ZIP-code
Methods - Eight Online Purchase Pilot (OPP) States
Method 2: Identify delivery areas

Nielsen TDLinx
Identify grocers that accept SNAP
Method 2: Identify delivery areas

Nielsen TDLinx
Identify grocers that accept SNAP

Google
Find retailer websites

Manual Website Review
Delivery areas
Method 3: Quantify food desert delivery availability
Method 3: Quantify food desert delivery availability

- Fully deliverable
- Partially deliverable
- Not deliverable
Outcomes

Primary: Percent of census tracts and SNAP households in each category (fully, partially, or not deliverable)

Secondary:
Results by rural/urban status
Results by state

Monte Carlo simulations of the Fisher exact test
## Results

<table>
<thead>
<tr>
<th>Census Tracts (n=13,134)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Food desert census tracts</td>
<td>1,250 (10%)</td>
</tr>
<tr>
<td>Urban census tracts</td>
<td>1,191 (95%)</td>
</tr>
<tr>
<td>Rural census tracts</td>
<td>59 (5%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SNAP Households (n=2,760,482)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SNAP households in food deserts</td>
<td>506,863 (18%)</td>
</tr>
<tr>
<td>SNAP households in urban food deserts</td>
<td>491,201 (97%)</td>
</tr>
<tr>
<td>SNAP households in rural food deserts</td>
<td>15,662 (3%)</td>
</tr>
</tbody>
</table>
Results

Online deliverability to food desert census tracts (n=1,250)

88.6%

- Fully
- Partially
- Not

8.9%

2.5%
Results

Online deliverability to food desert SNAP households (n=506,863)

- 90.0% Fully
- 7.5% Partially
- 2.5% Not
In these eight Online Purchase Pilot states, this translates to:

- >450,000
- ~400,000
- ~900,000
- ~120,000
Results

Online deliverability to food desert census tracts by urban/rural status

Urban (n=1,191)  
- Fully: 93.0%
- Partially: 5.9%
- Not: 1.1%

Rural (n=59)  
- Fully: 69.5%
- Partially: 30.5%
- Not: 0%

p<0.001
Results

Urban

Maryland

Fully
Partially
Not

92%
8%
0%
Results

Urban

Maryland

Fully

Partially

Not

100%

8%

92%

0%

Washington D.C.

Baltimore

Annapolis

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Results

Mix

- Fully
- Partially
- Not

Alabama:
- 0%
- 20%
- 40%
- 60%
- 80%
- 100%

23% Fully
5% Partially
72% Not

NCCOR CONNECT & EXPLORE
Results

Mix

Fully
Partially
Not

100%
80%
60%
40%
20%
0%

Alabama

Birmingham
Montgomery
Results

Online deliverability to food desert census tracts by state

New Jersey (n=192): 100% (0%)
New York (n=343): 93% (3%)
Maryland (n=200): 92% (9%)
Washington (n=131): 87% (10%)
Oregon (n=105): 86% (10%)
Iowa (n=57): 84% (0%)
Nebraska (n=41): 76% (10%)
Alabama (n=181): 72% (11%)

Rural: 0 (0%), 11 (3%), 2 (1%), 12 (9%), 10 (10%), 0 (0%), 4 (10%), 20 (11%)

p<0.001
Conclusion

- Grocery delivery is available for most food deserts
  - 8 of 9 food desert census tracts fall within delivery networks
  - 9 of 10 SNAP households in food deserts fall within delivery networks
Conclusion

- Grocery delivery availability differed by urban vs. rural status and state
Limitations

- We studied the eight Online Purchase Pilot states; results may be different in other regions.

- Delivery services not connected to brick and mortar stores may have been missed, therefore our results may be underestimated.
Implications

- 2018 Farm Bill mandates online purchasing go nationwide after pilot completion (April 2021)
Implications

- However, the bill does not finance grocery delivery. This is likely to limit the impact.
Implications

- Future research should focus on:
  - How best to leverage grocery delivery to improve access and quality
  - Which groups will be most likely to use and benefit from online delivery
  - Utilizing incentives and disincentives within online purchasing platforms to improve SNAP diet quality
Research Letter | Health Policy

Availability of Grocery Delivery to Food Deserts in States Participating in the Online Purchase Pilot

Eric J. Brandt, MD; David M. Silvestri, MD, MBA, MHS; Jerold R. Mande, MPH; Margaret L. Holland, PhD, MPH, MS; Joseph S. Ross, MD, MHS
Thanks to my co-authors!

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Jerold R. Mande MPH
Margaret L. Holland PhD, MPH, MS
Joseph S. Ross MD, MHS
Food Deserts and the Causes of Inequality
Are food deserts the chicken or the egg?
FOOD DESERTS AND THE CAUSES OF NUTRITIONAL INEQUALITY*

HUNT ALLCOTT
REBECCA DIAMOND
JEAN-PIERRE DUBÉ
JESSIE HANDBURY
ILYA RAHKOVSKY
MOLLY SCHNELL

We study the causes of “nutritional inequality”: why the wealthy eat more healthfully than the poor in the United States. Exploiting supermarket entry and household moves to healthier neighborhoods, we reject that neighborhood environments contribute meaningfully to nutritional inequality. We then estimate a structural model of grocery demand, using a new instrument exploiting the combination of grocery retail chains’ differing presence across geographic markets.
What happens when a grocery store is introduced into a food desert?
All geographies
All geographies

Food deserts

Entrant share (%)

Entrant share (deserts)

Gmc/super/club exp. share (%)

Health Index

Health Index (deserts)
Food consumption categories by household income

- **Added sugar**: Grams added sugar per 1,000 calories vs. Household income ($000s)
- **Whole grain**: Share whole grain bread vs. Household income ($000s)
- **Produce**: Produce calorie share vs. Household income ($000s)
Food consumption categories by household income

- **Added sugar**: Grams added sugar per 1,000 calories vs. Household income ($000s)
- **Whole grain**: Share whole grain bread vs. Household income ($000s)
- **Produce**: Produce calorie share vs. Household income ($000s)
- **Health Index**: Health index vs. Household income ($000s)
Implications

- How best to leverage grocery delivery to improve access and quality

- Utilizing incentives and disincentives within online purchasing platforms to improve SNAP diet quality
Food Insecurity Nutrition Incentive (FINI) grant program

DOUBLE UP FOOD BUCKS
WE'LL MATCH YOUR EBT DOLLARS

For every EBT dollar you spend, we'll match, dollar for dollar, with no daily limit on the amount.
Food Insecurity Nutrition Incentive (FINI) grant program

Four strategies:

1. SNAP participants earn incentives through purchasing any SNAP-items, to be redeemed for qualifying fruits and vegetables. (75% of retailers)

2. SNAP participants earned incentives through the purchase of qualifying fruits and vegetables. Incentives were redeemed for any SNAP-eligible item. (11%)

3. SNAP participants earned incentives through the purchase of qualifying fruits and vegetables and redeemed incentives for qualifying fruits and vegetables. (12%)

4. No purchase was necessary because SNAP participants received a prescription/voucher. The voucher could be redeemed for qualifying fruits and vegetables. (7%)
FINI increased expenditures

Table 8-1. Impact of incentives on monthly fruit and vegetable expenditures, by study group

<table>
<thead>
<tr>
<th>Study group</th>
<th>n</th>
<th>Treatment group regression-adjusted mean ($)</th>
<th>Comparison group regression-adjusted mean ($)</th>
<th>Incentive impact</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers market general</td>
<td>346</td>
<td>69.01 (2.93)</td>
<td>65.18 (2.60)</td>
<td>3.83 (3.68)</td>
<td>0.30</td>
</tr>
<tr>
<td>(N=833)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers market shoppers</td>
<td>376</td>
<td>96.29 (2.74)</td>
<td>80.97 (3.82)</td>
<td>15.32*** (4.65)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>(N=703)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grocery store general</td>
<td>400</td>
<td>71.13 (2.79)</td>
<td>61.77 (2.34)</td>
<td>9.37** (3.80)</td>
<td>0.02</td>
</tr>
<tr>
<td>(N=935)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grocery store shoppers</td>
<td>212</td>
<td>69.83 (4.15)</td>
<td>59.93 (2.60)</td>
<td>9.90** (4.88)</td>
<td>0.05</td>
</tr>
<tr>
<td>(N=454)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SNAP Diet Quality
Trends and Disparities in Diet Quality Among US Adults by SNAP Status
(Zhang, 2018)
Most Americans Do Not Meet Fruit and Vegetable Recommendations

*SNAP Households Are Especially At Risk*

- USDA’s National Household Food Acquisition and Purchase Survey or *FoodAPS* includes data on foods purchased, prices paid, store access and other factors that shed light on the challenges faced by SNAP participants.

- SNAP households obtain fewer fruits and vegetables relative to their needs.

How Are SNAP Benefits Spent? Evidence from a Retail Panel (Hastings, 2017)

Detailed transaction records from 2006–2012 for nearly .5 million regular customers of a large U.S. grocery retailer.

Payment method inferred SNAP participation.

“While conventional economic theory predicts that no more of every dollar from SNAP than other sources would go to food purchases, the authors find that between 50 and 60 cents of the SNAP dollar are spent on groceries, consistent with ‘mental accounting’ theory.”
The Effect of SNAP on the Composition of Purchased Foods (Hastings, 2018)

Abstract

“We use detailed data from a large retail panel to study the effect of participation in the Supplemental Nutrition Assistance Program (SNAP) on the composition and nutrient content of foods purchased for at-home consumption. We find that the effect of SNAP participation is small relative to the cross-sectional variation in most of the outcomes we consider. Estimates from a model relating the composition of a household’s food purchases to the household’s current level of food spending imply that closing the gap in food spending between high- and low-SES households would not close the gap in summary measures of food healthfulness.”
## Foods Typically Purchased by SNAP Households (USDA, 2016)

<table>
<thead>
<tr>
<th>Commodity</th>
<th>SNAP Household Expenditures</th>
<th>Non-SNAP Household Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank</td>
<td>$ in Millions</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>1</td>
<td>$357.7</td>
</tr>
<tr>
<td>Fluid milk products</td>
<td>2</td>
<td>$253.7</td>
</tr>
<tr>
<td>Beef:grinds</td>
<td>3</td>
<td>$201.0</td>
</tr>
<tr>
<td>Bag snacks</td>
<td>4</td>
<td>$199.3</td>
</tr>
<tr>
<td>Cheese</td>
<td>5</td>
<td>$186.4</td>
</tr>
<tr>
<td>Baked breads</td>
<td>6</td>
<td>$163.7</td>
</tr>
<tr>
<td>Cold cereal</td>
<td>7</td>
<td>$139.2</td>
</tr>
<tr>
<td>Chicken fresh</td>
<td>8</td>
<td>$121.4</td>
</tr>
<tr>
<td>Frozen handhelds &amp; snacks</td>
<td>9</td>
<td>$101.5</td>
</tr>
<tr>
<td>Lunchmeat</td>
<td>10</td>
<td>$99.4</td>
</tr>
<tr>
<td>Candy - packaged</td>
<td>11</td>
<td>$96.2</td>
</tr>
<tr>
<td>Infant formula</td>
<td>12</td>
<td>$95.7</td>
</tr>
<tr>
<td>Frozen pizza</td>
<td>13</td>
<td>$90.2</td>
</tr>
<tr>
<td>Refrigerated juices/drinks</td>
<td>14</td>
<td>$88.5</td>
</tr>
<tr>
<td>Ice cream ice milk &amp; sherbets</td>
<td>15</td>
<td>$86.0</td>
</tr>
<tr>
<td>Coffee &amp; creamers</td>
<td>16</td>
<td>$82.3</td>
</tr>
<tr>
<td>Cookies</td>
<td>17</td>
<td>$78.2</td>
</tr>
<tr>
<td>Water - (sparkling &amp; still)</td>
<td>18</td>
<td>$77.0</td>
</tr>
<tr>
<td>Shelf stable juice</td>
<td>19</td>
<td>$73.1</td>
</tr>
<tr>
<td>Eggs/muffins/potatoes</td>
<td>20</td>
<td>$72.0</td>
</tr>
<tr>
<td>Frozen ss premium meals</td>
<td>21</td>
<td>$68.6</td>
</tr>
<tr>
<td>Cakes</td>
<td>22</td>
<td>$68.2</td>
</tr>
<tr>
<td>Bacon</td>
<td>23</td>
<td>$66.1</td>
</tr>
<tr>
<td>Traditional Mexican foods</td>
<td>24</td>
<td>$62.6</td>
</tr>
<tr>
<td>Yogurt</td>
<td>25</td>
<td>$59.9</td>
</tr>
</tbody>
</table>
SNAP

SUPPLEMENTAL NUTRITION ASSISTANCE PROGRAM
Many Americans living in poverty do not have access to healthy food at a reasonable price, compelling them to make unhealthy food choices. The goal of SNAP is to increase food security and access to a healthy diet among low-income households.

A framework for determining the feasibility and defining the adequacy of SNAP allotments.

FACTORS AFFECTING FOOD SECURITY AND ACCESS TO A HEALTHY DIET

TOTAL RESOURCES
- Financial/In-Kind Income
  - SNAP benefits
  - Other program benefits
  - Household income
  - Other resources (e.g., emergency food assistance)

INDIVIDUAL/HOUSEHOLD FACTORS
- Dietary knowledge
- Attitudes/preferences
- Cultural influences
- Skills/abilities
- Space/equipment
- Special needs

ENVIRONMENTAL FACTORS
- Prices
- Location
- Transportation

PROGRAM GOALS
- Food security
- Access to a healthy diet

PURCHASING AND CONSUMPTION PATTERNS
- Amounts of food
- Kinds of food

INSTITUTE OF MEDICINE AND NATIONAL RESEARCH COUNCIL
OF THE NATIONAL ACADemies
Research from Food-PRICE, 2018
(Food Policy Review and Intervention Cost-Effectiveness)

• **Study aim:** To estimate and compare the health impact, cost, and cost-effectiveness of three policy strategies to improve diet and reduce cardiovascular disease in the SNAP population over 5 years, 10 years, 20 years, and a lifetime.

• **Data:** National data on adult SNAP participants (age 35+) from the National Health and Nutrition Examination Survey (NHANES) 2009-2014

• **Model:** Validated microsimulation model (CVD-PREDICT)

Three Policy Scenarios

1. F&V Incentive:
   30% incentive, fruits and vegetables (F&V)

2. F&V Incentive/SSB Restriction:
   30% incentive, fruits and vegetables (F&V)
   Restriction, sugar-sweetened beverages (SSB)

3. SNAP Plus:
   30% incentive, fruits and vegetables, nuts, whole grains, fish, plant-based oils
   30% disincentive, sugar-sweetened beverages, junk food, processed meats

Cost Effectiveness Results

Cost Effectiveness Results

Conclusions

• All three SNAP interventions produced significant health gains and are cost-effective.
• SNAP Plus achieved the largest health gains and cost-savings, including direct savings for the SNAP program.

Implications

• A combined food incentive/disincentive program may be most attractive.
• These SNAP interventions should be tested in multiple state pilots in the 2020 Farm Bill to leverage and strengthen SNAP for better health and lower healthcare costs.
Bipartisan Policy Center SNAP Task Force

Recommendations

Prioritize Nutrition in SNAP
1. Make diet quality a core SNAP objective.
2. Eliminate sugar-sweetened beverages from a list of items that can be purchased with SNAP benefits.
3. Support healthy purchases by continuing and strengthening incentives for purchasing fruits and vegetables.
4. Authorize funds for the U.S. Department of Agriculture (USDA) to conduct a range of evidence-based pilots to improve SNAP participants’ diets.
5. Consolidate USDA authority over the agency’s nutrition standards and nutrition-education efforts
6. Authorize USDA to collect and share store-level data on all products purchased with SNAP funds.
7. Strengthen SNAP retailer standards to improve the food environment for all shoppers.
SNAP Policy Recommendations:

• Increase access and participation
• Protect structure and update benefit
• Diet quality as core objective
• Innovative pilot programs
• SNAP-Ed infrastructure
• Retailer standards and data
QUESTIONS?

Please type your question(s) in the chat box located on the right.
UPCOMING EVENTS
### Upcoming Events

- **Sign up for our newsletter**
- **Upcoming Connect & Explore:** "NCCOR's Tools in Action: featuring the Summer Physical Activity and Friendship Study" on Thursday, March 5 at 2 p.m.
- **NCCOR will have a booth at SOPHE in Atlanta, GA March 17-20**
- **NCCOR presenting at SOPHE Student Workshop Wednesday, March 18, 11:15–12:45 p.m.**

<table>
<thead>
<tr>
<th>Student Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Case Study Competition</strong></td>
</tr>
<tr>
<td>Solve a real-world health issue using the competencies required for a school or community health educator.</td>
</tr>
<tr>
<td>Limited space available</td>
</tr>
<tr>
<td>Tuesday, 9:00AM - 5:00PM</td>
</tr>
<tr>
<td><strong>Student Workshop</strong></td>
</tr>
<tr>
<td>Who's Who in Health Education: Learning How to Make the Best Out of Your Network</td>
</tr>
<tr>
<td>Wednesday, 11:15AM - 12:45PM</td>
</tr>
<tr>
<td><strong>Student Social</strong></td>
</tr>
<tr>
<td>Network with other students and young professionals.</td>
</tr>
<tr>
<td>Food provided.</td>
</tr>
<tr>
<td>Wednesday, 7:00PM - 8:30PM</td>
</tr>
<tr>
<td><strong>Resume Review</strong></td>
</tr>
<tr>
<td>Bring a copy of your resume to get edits and advice from professionals in the field.</td>
</tr>
<tr>
<td>By appointment only</td>
</tr>
</tbody>
</table>
New Resources

FURTHER QUESTIONS?

Other questions about NCCOR or upcoming activities?

Email the NCCOR Coordinating Center

nccor@fhi360.org
WHAT'S HAPPENING IN
NCCOR NEWS

NCCOR publishes chapter: Behavioral Design as an Emerging Theory for Dietary Behavior Change

NCCOR is highlighting multidisciplinary partnerships to celebrate National Childhood Obesity Awareness Month 2018!

Utility of the Youth Compendium of Physical Activities

NCCOR to present at the Society for Prevention Research and the American College of Sports Medicine 2018 Annual Meetings

NCCOR updates the Catalogue of Surveillance Systems and seeks recommendations for new systems

Connect & Explore

Upcoming Webinars

Mark your calendar for these upcoming Connect & Explore webinars!
THANK YOU!