Section D

Baltimore Healthy Stores
Baltimore Healthy Stores Goals

- To increase availability and access to healthy foods for residents of Baltimore City

- To promote these foods at the point of purchase

- To work in collaboration with community agencies, the city of Baltimore, and local food sources
# Healthy Foods Availability in Baltimore City*

<table>
<thead>
<tr>
<th>Type of food stores</th>
<th>Healthy food availability index, mean (range 0-27)</th>
<th>Skim milk (%)</th>
<th>Fruit (%) 1-25 ≥26</th>
<th>Vegetables (%) 1-25 ≥26</th>
<th>Whole wheat bread (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarkets (16)</td>
<td>19.0</td>
<td>100</td>
<td>25</td>
<td>13</td>
<td>100</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>69</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>Grocery/corner stores (107)</td>
<td>4.4</td>
<td>25</td>
<td>43</td>
<td>57</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>“Behind-the-glass” stores (20)</td>
<td>2.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Convenience stores (33)</td>
<td>3.8</td>
<td>36</td>
<td>33</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
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</tbody>
</table>

*Franco data, n = 176
Store Interior
Baltimore Healthy Stores, Round 1

- East Baltimore: intervention area
- West Baltimore: comparison area

Store sample
  - Two supermarkets per area
  - Six to seven small stores per area

Consumer sample
  - Eighty-seven respondents per area
# Top Sources of Energy, Fat, and Sugar (Baltimore City)

- Top ten sources of energy, fat, and sugar of inner city adult respondents in Baltimore (Sharma et al.)

<table>
<thead>
<tr>
<th>Energy (%)</th>
<th>Fat (%)</th>
<th>Sugar (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food item</strong></td>
<td><strong>Energy</strong></td>
<td><strong>Fat</strong></td>
</tr>
<tr>
<td>Sodas</td>
<td>9.5</td>
<td>12.1</td>
</tr>
<tr>
<td>Chicken</td>
<td>8.2</td>
<td>8.1</td>
</tr>
<tr>
<td>Breads</td>
<td>6.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Cake, donut and other pastry</td>
<td>4.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Sandwiches and burgers</td>
<td>4.0</td>
<td>5.2</td>
</tr>
<tr>
<td>Sugary drinks</td>
<td>3.8</td>
<td>5.1</td>
</tr>
<tr>
<td>Chips</td>
<td>3.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Pasta dishes</td>
<td>3.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Meat dishes</td>
<td>3.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Candies</td>
<td>2.9</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>48.7</td>
<td>59.8</td>
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</table>
Baltimore Healthy Stores Phases

Phase 0: Teasers/Recruitment

Phase 1: Healthy Eating for your Kids

Phase 2: Cooking at Home

Phase 3: Healthy Snacks

Phase 4: Carryout Foods

Phase 5: Low-Calorie Drinks
Intervention Activities

- Stop, Shop, Save
  Phase 2: Healthy Breakfast
Cultural guidelines for Korean store owners

1. Keep prices steady throughout the month.
2. Buy foods for your shelves that are not close to expiration. Check to see that all packaged foods are at least 1–2 months before expiration.
3. Contribute part of your profits back to the community and advertise it. (For example, donate food to needy residents, provide support for schools, recreation and public safety)
4. Greet your customers when they enter your store. (Hi, Hello, How are you?) In American culture, it is appropriate to greet.
5. Make eye-contact and small talk (jokes, comment on the weather, discuss personal experiences).
6. Do not ignore customers (it is considered a direct insult).
7. Do not watch customers constantly.
8. Do not put change on the counter; put it back into the customer’s hand.
9. Say goodbye when they leave (Thank you. See you later, Take care, Have a nice day).
10. From time to time, ask regular customers what they would like you to stock and get those items.
11. Hire workers from the community.
12. Set up a bulletin board for community members to post information.
Phase 1: Low-Calorie Beverages

Educational display

**Quench Your Thirst with Water**

**ADVANTAGES OF WATER**
1. Really quenches your thirst
2. Keeps up your body fluids so you perform better
3. Far cheaper and better for your health than soda

**SAVE MONEY & CALORIES BY CHOOSING WATER!**

**Bottled Water COUPON**

This coupon entitles you to 50 cents off a bottled water

- Bottled water must be purchased by the time
- See reverse for list of participating stores

**Coupon**

Flyer

Howard CALORIES ARE YOU DRINKING?

No Sugar -> No calories

9 tsps of sugar -> 150 calories

1 teaspoon of sugar = 16 calories.
8 teaspoons = ???
Phase 2: Healthy Breakfast

Flyer

Educational display

Toasted Os vs. Sugar Flakes

2 grams of Fiber
1 gram of Sugar

SERVING SIZE = 3/4 cup

2 grams of Fiber
1 gram of Sugar

SERVING SIZE = 3/4 cup

Did you know?

The Baltimore City Department of Social Services can help you get food stamps, temporary cash assistance and medical care. To find out if you qualify, go to your local social services center. To find your local center, call 410-341-4600.
Phase 3: Cooking at Home

Posters

Stay Lean! Use Smoked Turkey in your greens and beans.

MAKE FOOD LESS GREASY!

Low Fat Non-Stick

COOKING WITH SPRAY IS EASY!
Phase 4: Healthy Carryout

Educational display

ARE YOU MAKING THE CORRECT CHOICE?

If you must eat out, here’s what you can do to

STAY HEALTHY!

1. Choose Mustard/Ketchup with your sandwich
2. Avoid Chili on your hotdog
3. Ask for tuna/turkey/chicken sandwich or sausages
4. Ask for Whole Wheat Bread
5. If you cannot resist fried foods, choose the smallest serving, or eat less often
6. Pick water/diet beverages.

Flyer

TRY HEALTHY CHOICES AT YOUR CARRY-OUT OR DELI

Choose LOW FAT CONDIMENTS

Choose WHOLE WHEAT BREAD for your sandwiches

Choose WHITE MEAT, instead of pork or beef:
- Turkey sausages, turkey bacon, sliced turkey
- Sliced chicken
- Fish filets
Phase 5: Healthy Snacks

Posters

Fruit and veggies are fine...

...to snack-on anytime!

Have a SNACK ATTACK without the FAT!
# BHS Evaluation Plan

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Pre-</th>
<th>Mid-</th>
<th>Post-</th>
<th>Follow-up</th>
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<tr>
<td><strong>Process evaluation</strong></td>
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<td>▪ Store process evaluation</td>
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<tr>
<td>▪ Store owner process evaluation</td>
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<tr>
<td>▪ Cooking demo, taste test evaluation</td>
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<tr>
<td>▪ Cooking demo, taste test customer evaluation</td>
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<tr>
<td>▪ Weekly interventionist progress report</td>
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<tr>
<td><strong>Store impact and feasibility</strong></td>
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<tr>
<td>▪ Store impact questionnaire</td>
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<tr>
<td>▪ Bi-weekly food sales (corner)</td>
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<tr>
<td>▪ In-depth interviews</td>
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<td><strong>Customer impact and feasibility</strong></td>
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<tr>
<td>▪ Customer impact questionnaire</td>
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<tr>
<td>▪ Food frequency questionnaire</td>
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<td></td>
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<tr>
<td>▪ Customer feasibility interviews</td>
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<td></td>
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</tr>
</tbody>
</table>
## Store Results

- Average stocking/sales feasibility scores at baseline, post-phase, and post-intervention

<table>
<thead>
<tr>
<th></th>
<th>Average stocking feasibility scores (Score range 0-10)</th>
<th>Average sales feasibility score (Score range 0-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intervention</td>
<td>Comparison</td>
</tr>
<tr>
<td>Baseline</td>
<td>5.9 ± 2.0</td>
<td>6.8 ± 1.6</td>
</tr>
<tr>
<td>Post-phase</td>
<td>8.3 ± 1.0</td>
<td>6 ± 1.8</td>
</tr>
<tr>
<td>Post-intervention</td>
<td>7 ± 2.0</td>
<td>5.5 ± 1.5</td>
</tr>
</tbody>
</table>
Consumer Results

- After adjustment for baseline value, age, sex, and SES
  - Significant impact on food preparation methods and frequency of purchase of promoted foods
  - Trend of impact on food intentions
Eight Total Programs
<table>
<thead>
<tr>
<th>Program</th>
<th>Intervention components</th>
<th>Impact observed</th>
<th>Store</th>
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</thead>
<tbody>
<tr>
<td>Marshall Islands Healthy Stores</td>
<td>X</td>
<td>Knowledge</td>
<td>N/A</td>
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<tr>
<td>Apache Healthy Stores 1,2</td>
<td>X</td>
<td>Knowledge</td>
<td>Increased stocking and sales</td>
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<td>Zhiwaapenewin Akino’magewin</td>
<td>X</td>
<td>Knowledge</td>
<td>N/A</td>
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<tr>
<td>Baltimore Healthy Stores 1,2</td>
<td>X</td>
<td>Intentions</td>
<td>Increased stocking and sales</td>
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<tr>
<td>Healthy Foods Hawaii</td>
<td>X</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Healthy Foods North (Arctic)</td>
<td>X</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Navajo Healthy Stores</td>
<td>X</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>
Future Directions

- **Baltimore Healthy Stores**
  - Baltimore Healthy Eating Zones (youth)
  - Baltimore Healthy Church Zones (adult churchgoers)

- **Zhiwaapenewin Akino’maagewin**
  - Proposed expanded trial under review by USDA/NRI

- **Navajo Healthy Stores**
  - Producer formative research
  - Farms to Table program
Acknowledgments

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  - Jean Anliker, U Mass
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  - Elsie DeRoose, GNWT
  - Kevin Frick, JHSPH
  - Rachel Novotny, U Hawaii
  - Cindy Roache, GN
  - Sangita Sharma, PhD
  - Allan Steckler, UNC

- Community partners
  - Bashas supermarkets
  - Red Mesa Stores
  - Diabetes Prevention Programs
  - Kids on the Hill
  - Government of Nunavut, NWT
  - Tribal Governments
  - Special Diabetes Programs

- Students and staff
  - Chrisa Arcan
  - Mirielle Begay

- Former and ongoing students/staff
  - Xia Cao
  - Sarah Curran
  - Justine Dang
  - Nadine Eads
  - Becky Ethelbah
  - Jill Faucette
  - Attia Goheer
  - Lara Ho
  - Sharla Jennings
  - David Lessens
  - Jessica Noel
  - Ogban Omoronia
  - Stephanie Oppenheimer
  - Marla Pardilla
  - Wendy Pavlovich
  - Irit Rasooly
  - Hannah Reddick
  - Amanda Rosecrans
  - Hee-Jung Song
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  - Muge Qi
  - Amy Vastine
Funders

- Center for a Livable Future
- USDA/Food Assistance Nutrition Research Program
- USDA/National Research Institute
- Robert Wood Johnson Foundation Healthy Eating Research program
- American Diabetes Association
- Stulman Foundation
- Isador and Gladys Foundation
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