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B'More Healthy Communities for Kids, a multilevel obesity prevention program for African American children: Wave 1 process and impact results

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Baltimore City Food Environment

2015 Baltimore City Food Environment

- Food Store
- Supermarket
- Alternative Healthy Food Retail
 - Public Markets
 - Virtual Supermarkets
- Neighborhood Boundaries
- Major Parks

Map created using data from the Baltimore City Department of Health and Human Services, Baltimore City Department of Planning, and Baltimore City Department of Public Works. The map is for informational purposes only and does not constitute an official statement of the City of Baltimore. The map is not intended to be used for legal or other purposes. The map is not intended to be used for legal or other purposes.

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Previous studies, 2004-2012

15 corner stores
Increase stocking of healthier foods; Point of purchase promotions; Store owner training; Interactive sessions
Increased stocking and sales of promoted healthier foods
Increased consumer purchase of healthier foods and healthier food preparation methods

8 carryouts
Redid menus; increased/promoted healthier sides and beverages; lower cost combo meals
Increased sales of healthier promoted items, increased total revenues
Increased consumer purchase of healthier foods

16 recreation centers and their neighborhoods
Changing the food environment in neighborhoods (corner stores, carryouts, rec centers)
Youth peer educators, Rec center staff training
Decreased BMI in children overweight or obese at baseline

Questions emerging from previous studies

- What is the best combination of interventions to improve the food environment and impact childhood obesity in Baltimore?
- How to engage parents?
- How to engage community in a MLMC intervention?
- How to assess implementation and impact?
- How to sustain complex MLMC interventions?



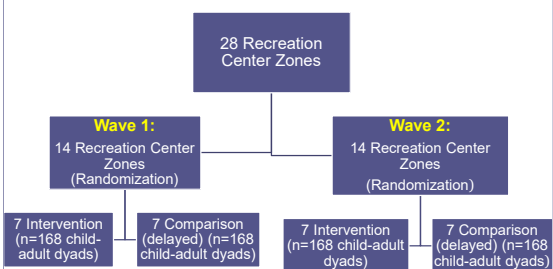
BHCK Aims



1. To implement a MLMC community-based obesity prevention program, operating at multiple levels of the Baltimore City food system
2. To increase affordability, availability, purchase, and consumption of healthy foods in 14 low-income minority neighborhoods (with 14 comparison)
3. To examine implementation at each level through a detailed process evaluation
4. To evaluate impact on multiple levels: healthy food pricing and availability; adult food purchasing, preparation and obesity; and child obesity, diet and psychosocial factors



Study Design

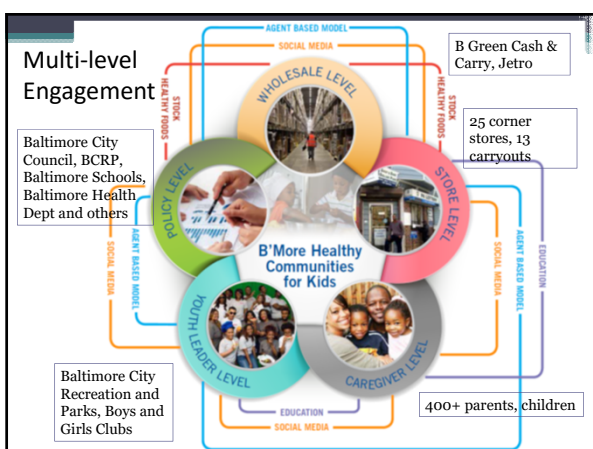


Community Engagement

- Selection: low-income 28 food desert areas of Baltimore City
- Community engagement: Essential element of MLMC interventions
- Formative research
- Part of each level of the BHCK MLMC program
- Intended to enhance sustainability

Formative Research for BHCK


- **Adult In-Depth Interviews**
 - Focus: foods consumed, food behaviors, intervention development purposes
 - # completed: 12+
- **Child In-Depth Interviews**
 - Focus: foods consumed, food behaviors, intervention development purposes
 - # completed: 20+
- **PhotoVoice**
 - Focus: 'my food environment'
 - # total participants: 18
- **Adult Focus Groups**
 - Focus: interest in social media components, cooking classes; messaging
 - # completed: 3
 - # total participants: 18
- **Child Focus Groups**
 - Focus: promoted foods, messaging, BHCK icon
 - # completed: 4
 - # total participants: 43
- **Policymaker In-Depth Interviews**
 - Focus: experience of working with ABM, ways to expand/enhance ABM
 - # completed: 13



Process evaluation measures

Process evaluation construct*	How defined in BHCK
Reach	% of target population to receive any amount of a specific intervention component (level)
Dose delivered	% of each intervention component provided to target population
Fidelity	How well intervention implemented at each level, as a reflection of participant engagement (e.g., by storeowners)
Dose received (exposure)	Amount of each intervention seen/heard /participated in by children and adult caregivers, via self-report

* Steckler and Linnan



Process evaluation standards

- 2-6 measures each for reach, dose delivered and fidelity for each intervention level
- Low:** <50% of high standard
- Medium:** 50-99% of high standard
- High:** 100% or above of high standard

Process Evaluation standards for corner store level	High standard
Reach	
# of stores participating in BHCK program throughout intervention	≥14
# of child (ages 10-14) interactions during interactive session	≥10
# of adult (ages ≥18) interactions during interactive session	≥20
Dose Delivered	
# of times BHCK team meets with a store owner per phase	≥2
Length of interactive session	≥75 min
Average length of time spent with store owner per meeting (see above)	>30
# food samples distributed per interactive sessions	≥20
# handouts distributed per interactive session	>20
# giveaways distributed per interactive session	>20
# of times educational display boards are used in interactive session per phase	≥2.00
Total # of promoted food posters positioned by BHCK team per phase	≥3
# of shelf labels on promoted foods positioned by BHCK team at the beginning of each phase	≥8
Fidelity	
% of correctly positioned shelf labels by the end of each phase	≥75%
# of promoted foods stocked per phase	≥8
# of NEW promoted foods introduced per phase	≥3
# of training videos watched by the end of the intervention	≥5
# of structural incentives earned per store by the end of the intervention	3
# of promoted foods stocked in BHCK refrigerator (if applicable)	≥4

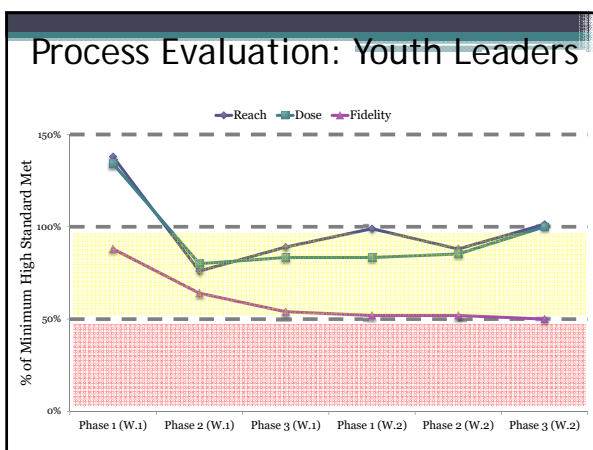
BHCK Youth-Leader Program

- 45-60 minute sessions with the youth (ages 10 and up) conducted by youth-leaders
- Nutrition sessions focus on 4 topics:
 - Healthy drinks
 - Smart snacks
 - Breakfasts
 - Healthy cooking
- Sessions occur every other week for 6 months



Example Standards for Dose Delivered, wave 2 phase 3

Standard	Low	Medium	High	Average
# handouts distributed/session	<7	7-11	12+	12.1
# giveaways distributed/session	<7	7-11	12+	12.7
# food sampled per session	<7	7-11	12+	12
# types of recipes distributed (phase2)	1	2	3+	4




Corner Stores

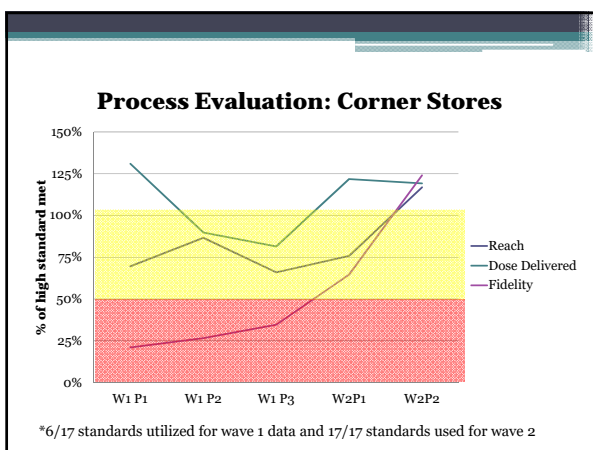
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Features


- Increased stocks of healthy foods
- In-store interactive sessions
- Shelf labels, posters and other visual materials
- Video trainings for store owners
- Incentives for store owners
 - Wholesaler gift cards
 - Structural incentives






Carryouts


Phase 1: Menu Redesign





Phase 2: Healthy Drinks & Sides




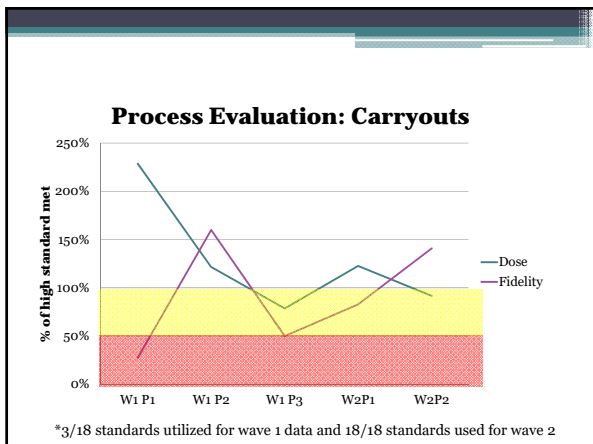
Phase 3: Healthy Combo Meals
















Wholesaler







Wholesaler Intervention

- Developed stocking sheets with wholesalers' managers
- Advertise healthy products in monthly circulars with BHCK logo and modest discounts
- Regular meetings with wholesale managers
- Regular feedback on achievements



Wholesale Stocking Sheets

Phase 1: Beverages

Sub-phase 1.1: Bottled Water

Bottled Water
 Example Brands:
 • Nestle Pure Life
 • Clear Park
 • Poland Spring

Zero-Calorie Flavored Water
 Example Brands:
 • Nestle Pure Life Splash
 • Propel Zero Water

Phase 3: Cooking

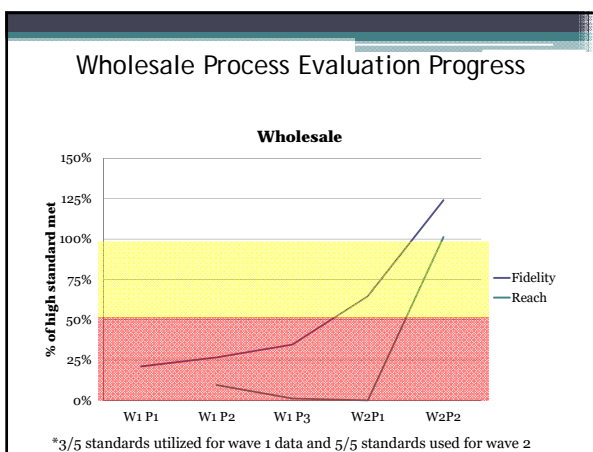
Sub-phase 3.1: Breakfast

Low Sugar Cereal
 Example Brands:
 • Cheerios
 • Kix

Nonfat Milk
 Example Brands:
 • Horizon
 • Landol

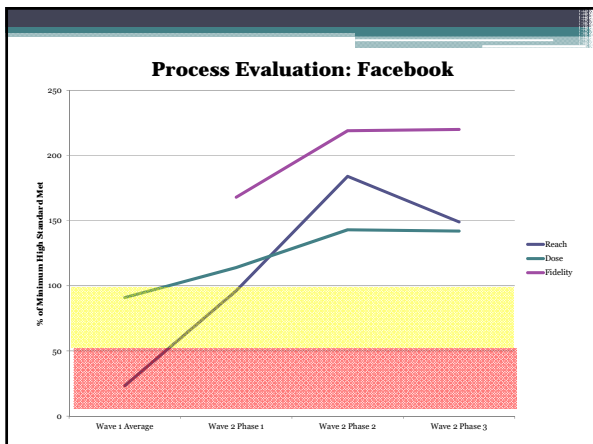
High Fiber Cereal
 Example Brands:
 • Branched Wheat
 • Granola
 • Raisin Bran

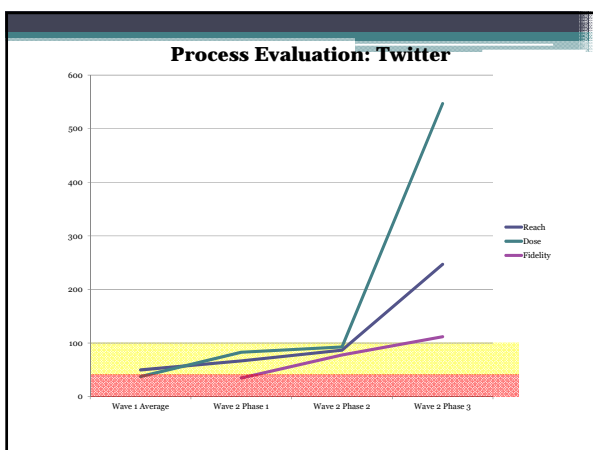
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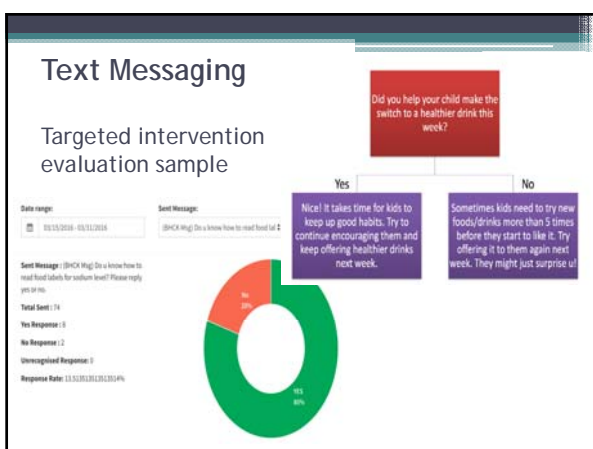


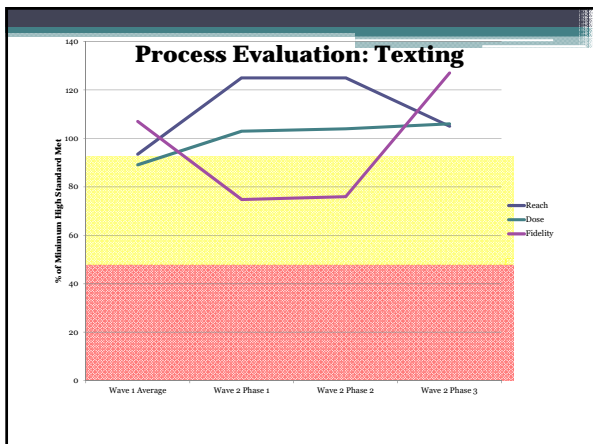
Social Media: Facebook & Instagram

Targeted community









Policy Working Group Meetings


10 meetings w/ city stakeholders, since kick-off in July 2013

30+ working group members, representing various sectors:

- City Council
- City Health Department
- Baltimore City Public Schools
- Family League
- Recreation and Parks
- Wholesalers
- Academia




Baltimore City Councilman
Carl Stokes



Baltimore City Councilman
Bill Henry



Baltimore City Councilman
Pete Welch




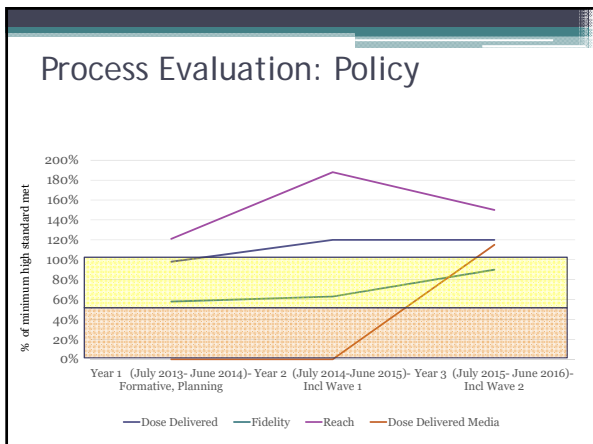
Baltimore City Food Policy
Director Holly Freshatt

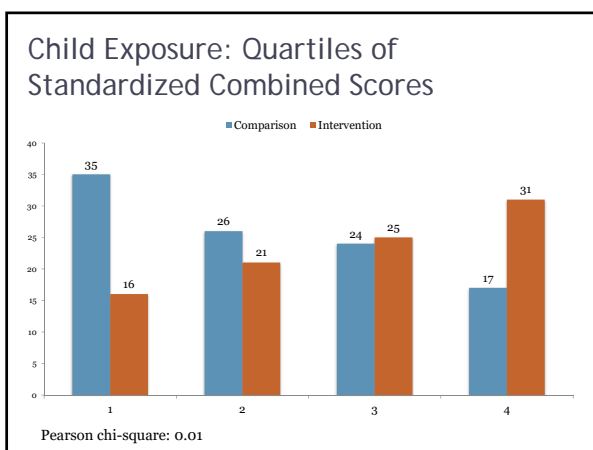


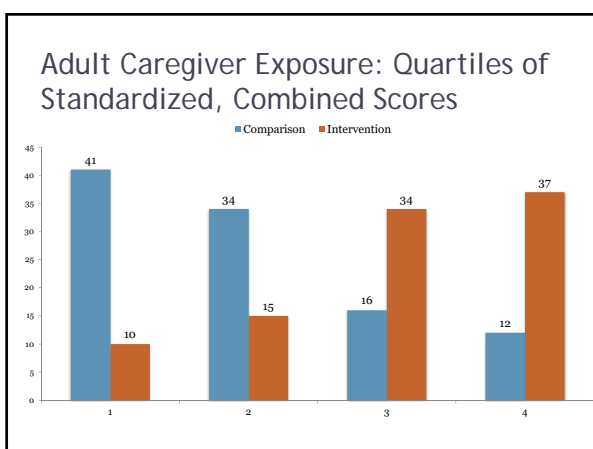
Policy

- Working with key stakeholders:
 - To develop and build the evidence base to support policies for a healthier food environment in Baltimore City
 - To sustain BHCK activities
- Develop simulation models to aid stakeholder decision-making









BHCK exposure: Wave 1 summary

- Good News: Intervention group more exposed than comparison
- Bad News: Overall low exposure to the program, Comparison group also exposed

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Impact analysis plan

- Examine change in intervention children/ caregivers from comparison children/ caregivers
- Difference in difference analysis
- Adjusted for age, sex, income, clustering by recreation center area
- Wave 1 and Wave 2 combined (original plan)
- Secondary: Wave 1 and 2 separately
- Analyze by exposure level
- Preliminary wave 1 impact findings will be presented

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Overall Summary and Lessons Learned

- Multi-level engagement needed for MLMC interventions
 - To develop, initiate, sustain, scale up
- Ongoing process evaluation important to monitor implementation
 - Improvements from wave 1 to wave 2
- Importance of setting standards for implementation
- Achieving adequate exposure is critical in MLMC interventions, and for planning analyses

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Thank you!

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