The Healthy Change in Your Community Challenge (HC3)

University of Alabama at Birmingham
Center for Clinical and Translational Sciences
McWane Science Center
UAB Dept. of Nutrition Sciences

American Public Health Association 140th Annual Meeting and Exposition
October 31, 2012
Presenter Disclosure

The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

“No relationships to disclose”
Alabama ranks as the fourth most obese state in the nation.

Results from the 2009-2010 National Health and Nutrition Examination Survey (NHANES) estimates that 17 percent of children and adolescents ages 2-19 years are overweight.

In 2007, 67% of adults in Alabama were overweight or obese based on self-reported height and weight.

79% of adults in Alabama consumed fewer than 5 fruits and vegetables per day.

HC3 was designed to create a greater awareness of how nutrition research translates into practice and healthy choices.

Source: Behavioral Risk Factor Surveillance System, CDC. National Health and Nutrition Examination Survey, CDC.
HC3 Components

- Joint collaboration among:
  - UAB Center for Clinical & Translational Science (CCTS)/One Great Community (OGC)
  - McWane Science Center
  - UAB’s Prevention Research Center’s (PRC) Evaluation & Assessment Unit
  - UAB Department of Nutrition Sciences
- 9-month interactive educational competition
- Designed to improve eating and physical activity practices among minority youth
HC3 Program

• Educational Experience:
  - Orientation Dinner
  - Educational Sessions
  - Camp-In at McWane Science Center
  - Group Project Competition
  - Awards Dinner & Prizes

• Participants received annual family membership to McWane Science Center
HC3 Target Group

- Birmingham, AL metro area
- Ages 7-13
- Five Community Groups
  - Boy Scouts/ Girl Scouts
  - Afterschool Programs
  - Faith-based youth groups
- Goal: To demonstrate changes and increase awareness of healthy eating/exercise practices of participants and entire families
HC3 participants at McWane Science Center engaged in food chemistry activity.
Data Collected

- Pre & Post Data (Group Level Change)
  - Height
  - Weight
  - BMI (calculated)
  - Waist circumference
- Food selections & consumption
- Demographic information
- Reflections and participant’s impressions
Demographic Information

- 84 youth
- 62 females
- 22 males
- Average Age: 11 yr. 3 mos.
- Average Weight: 128 lbs.
- Average Height: 4’5”
- African American
### BMI Classifications of Participants

<table>
<thead>
<tr>
<th>Participant Type</th>
<th>Underweight (&lt;18.5)</th>
<th>Normal Weight (18.5-24.9)</th>
<th>Overweight (25.0-29.9)</th>
<th>Obese (&gt;30)</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
<td>#</td>
</tr>
<tr>
<td>Child Participant</td>
<td>4</td>
<td>6.1</td>
<td>17</td>
<td>25.8</td>
<td>8</td>
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<tr>
<td>Sibling/Friend of</td>
<td>1</td>
<td>8.3</td>
<td>5</td>
<td>41.7</td>
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<tr>
<td>Parent of Participant</td>
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<td>0.0</td>
<td>4</td>
<td>10.5</td>
<td>8</td>
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<tr>
<td>Grandparent of Participant</td>
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<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>3</td>
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<tr>
<td>Other Adult</td>
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<td>0.0</td>
<td>4</td>
<td>28.6</td>
<td>4</td>
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<td>0</td>
<td>0.0</td>
<td>1</td>
<td>20.0</td>
<td>0</td>
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<tr>
<td>TOTAL</td>
<td>5</td>
<td>3.6</td>
<td>31</td>
<td>22.1</td>
<td>23</td>
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Food Observation Study

• Buffet Style Dinner (Orientation & Closing)
  – Healthy & Unhealthy Options
    • Grilled chicken vs. fried chicken tenders (protein)
    • Brown Rice vs. Mac & Cheese (starch)
    • Garden Salad vs. Carrot & Raisin Salad (greens)
    • Steamed Broccoli vs. Fried Okra (vegetables)
    • Fresh Fruit vs. Cake (sweets)
    • Soda vs. Juice Box vs. Water (beverage)
  – Self-report vs. observed selections and portion Sizes
# Food Observation Study

<table>
<thead>
<tr>
<th>Food Item</th>
<th>Selected Food</th>
<th>Servings Eaten</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
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<tr>
<td>Garden Salad</td>
<td>65.1</td>
<td>60.3</td>
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<tr>
<td>Carrot Raisin Salad</td>
<td>17.4</td>
<td>6.3</td>
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<tr>
<td>Grilled Chicken</td>
<td>44.2</td>
<td>52.4</td>
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<tr>
<td>Chicken Tenders (Fried)</td>
<td>81.4</td>
<td>87.3</td>
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<tr>
<td>Brown Rice</td>
<td>47.1</td>
<td>23.8</td>
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<tr>
<td>Macaroni &amp; Cheese</td>
<td>80.2</td>
<td>84.1</td>
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<tr>
<td>Steamed Broccoli</td>
<td>31.4</td>
<td>23.8</td>
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<tr>
<td>Fried Okra</td>
<td>47.7</td>
<td>42.9</td>
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<tr>
<td>Fruit Display</td>
<td>44.2</td>
<td>55.6</td>
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<tr>
<td>Cake</td>
<td>67.4</td>
<td>71.4</td>
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<tr>
<td>Juice Box</td>
<td>41.9</td>
<td>31.7</td>
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<tr>
<td>Soda</td>
<td>66.3</td>
<td>58.7</td>
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</table>
Food Preference

Scale: 1 = Yuck 😞  5= Yum 😊

Vegetable Options

- Children - Steamed Broccoli: Pre 2.93, Post 3.64
- Adults - Steamed Broccoli: Pre 4.07, Post 4.15
- Children - Fried Okra: Pre 3.44, Post 3.79
- Adults - Fried Okra: Pre 3.74, Post 4.29
Food Preference

Scale: 1 = Yuck ☹️  5 = Yum 😊

Dessert Options

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
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<tbody>
<tr>
<td>Children - Fruit Display</td>
<td>4.85</td>
<td>4.45</td>
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<tr>
<td>Adults - Fruit Display</td>
<td>4.59</td>
<td>4.48</td>
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<tr>
<td>Children - Cake</td>
<td>4.35</td>
<td>3.92</td>
</tr>
<tr>
<td>Adults - Cake</td>
<td>4.20</td>
<td>3.81</td>
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</table>
Anecdotal Behavior Changes

- Participants were exposed to and ate more fruits and vegetables
- Healthier food preparation methods were used
- Participants ate more appropriate portion sizes
- Participants consumed less unhealthy foods (soda, sweets, fried foods, etc.)
- Less snacking
- Participants exercised more frequently
- Self-report of some weight loss, feeling better
Lessons Learned

- Pre-engagement with each organization’s leadership staff is critical.
- Monthly educational sessions typically did not include parents so they do not benefit from the monthly information. It was assumed the youth participants were sharing information with their parents.
- Reliable transportation is an issue with this age group and demographic.
- Incorporate groups’ biometric measurements into what was learned from the educational content of the program.
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