Lowering Sodium in the School Food Environment is Elementary: Successful Strategies from the Broome County Sodium Reduction in Communities School Project

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Presenter Disclosures

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No relationships to disclose

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No relationships to disclose

Marissa Lamphere, MST
No relationships to disclose

Broome County Sodium Reduction in Communities Project

• 3-year Sodium Reduction in Communities Program funded by the Centers for Disease Control and Prevention (CDC)
  • One of 5 funded communities
  • Coordinated by the New York State Department of Health
  • Currently in Year 3
  • Sectors / locations:
    • Community: Grocery Stores & Senior Meal Nutrition Sites
    • Schools: Elementary Schools
  Specific Elementary School Goal:
  • Reduce sodium content in school lunch meals

To learn more about this program, visit the CDC website:
http://www.cdc.gov/dhdsp/programs/sodium_reduction.htm

Broome County, New York

• Population 195,000
• Mean household income $41,520
• 13.8% individuals living below poverty level
• 23% children living below poverty level
• 91% White
• 3.3% African American

• Adult Obesity 61.9%
• Youth Obesity 24.7%
• Adult Hypertension 30.9%
• Significant racial health disparities
• High premature death rates from all cardiovascular diseases

Sodium Content in Food Items

<table>
<thead>
<tr>
<th>SANDWICH</th>
<th>SODIUM (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicken Spiedie Sub</td>
<td>1096</td>
</tr>
<tr>
<td>Ham &amp; Cheese</td>
<td>1054</td>
</tr>
<tr>
<td>Turkey &amp; Cheese</td>
<td>900</td>
</tr>
<tr>
<td>Grilled Cheese</td>
<td>688</td>
</tr>
<tr>
<td>Tuna</td>
<td>679</td>
</tr>
<tr>
<td>Peanut Butter &amp; Jelly</td>
<td>405</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONDIMENT</th>
<th>SODIUM (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mustard</td>
<td>227</td>
</tr>
<tr>
<td>Mayonnaise</td>
<td>118</td>
</tr>
<tr>
<td>Ranch Dressing</td>
<td>161</td>
</tr>
<tr>
<td>Italian Dressing</td>
<td>143</td>
</tr>
</tbody>
</table>

Stakeholders

• Administration
• School Boards
• Food Services
• Directors
• Managers
• Staff
• Parents
• Students
• Teachers
• School Staff

• Centers for Disease Control and Prevention (CDC)
• National Sodium Reduction Initiative (NSRI)
• Vendors
• Manufacturers
• Brokers
BT-BOCES Food Services

- Includes rural, suburban, and urban areas
- 15 School districts: 12 school districts in Broome County & 3 school districts in Tioga County
- ~45 elementary schools
- Range in size from 640 to 6,000 students
- Serve approximately 20,000 lunches & 8,000 breakfasts across all grade levels daily
- School districts range from 17% to 70% in free/reduced meals

Central Administration:
1 Senior Food Service Director, 2 Food Service Directors, Special Projects Coordinator, Registered Dietitian

Local School Administrators:
15 managers, ~400 food service staff

Broome & Tioga Counties Approach

Central Administration:
- The Rock on Cafe™
- 15 School Districts
- Involvement of Every Director
- Recipe Development
- Promotion
- Community Involvement

Intervention Activities – YR 01

Key Elements

- Nutrition Baseline
- Procurement System
- Vendor Shows
- Menu Planning
- Recipe Development
- Taste Testing
- In-Services for Staff

Nutrition Analysis

- Nutrikids® software [http://www.nutrikids.com/]
  - Enter ingredients (some nutrition information in database; some entered manually)
  - Create recipe
  - Create monthly menu for recipes
  - Analyze data by day with estimated projections for menu items selected by students
  - Calculate monthly average for sodium content per lunch meal

Nutrition Analysis

Sodium Content weighted based on estimated number of children who select item
Key Strategies in Action

Reformulation
- Individual Round Pizza: Reformulate crust
  - 760 mg → 440 mg per serving

Substitution
- Grilled Cheese Sandwich: Substitute low sodium for regular cheese
  - 1167 mg → 688 mg per serving

Reduce Portion Size
- Tomato Soup: Reduce serving size from 8 oz to 4 oz
  - 960 mg → 480 mg per serving

Offer More Fresh
- Green Beans: Use fresh or frozen instead of canned
  - 21 mg → 0.5 mg per serving

Remove From Menu
- Ham & Cheese on a Pretzel Roll: Now serving munchables
  - 1161 mg → 367 mg per serving

Procurement

Procurement will be made on an item by item basis and consideration of award will be given to specifications, pricing, acceptance, nutritional contribution and sodium comparison will be taken into consideration.

BC Specification Cooperative Group Bid

Food Vendor Shows

Vendor Food Shows

Menu Planning

School Lunch Meal Costs

- Fruit 20¢
- Vegetable 20¢
- Milk 20¢
- Utensils 7¢
- Bread 11¢
- Entree 57¢

Average Total Cost = $2.89

<table>
<thead>
<tr>
<th>Category</th>
<th>$ Rate *</th>
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</thead>
<tbody>
<tr>
<td>Free/Reduced</td>
<td>2.94</td>
</tr>
<tr>
<td>Self Pay</td>
<td>2.50</td>
</tr>
</tbody>
</table>

* For School Districts with > 60% Free/Reduced

Recipe Development

- Recipe Team
- Current Focus
  - Low Sodium Items
  - Dark Green Vegetables
  - Orange Vegetables
  - Legumes
  - Whole Grains
- Kid Test Tasted!
Taste Testing

152 Yes
48 No

In-services for Administrators and School Food Service Staff

• Provided in-service for Broome County School Administrators on Broome County’s Sodium Reduction targets for schools.
• Provided an in-service for food service directors and food service staff Broome County’s Sodium Reduction Campaign and sodium reduction targets for schools.

New Items Selected

• Reduced Fat/Reduced Sodium Taco Meat
• Reduced Fat/Reduced Cheese
• Grilled Cheese & Deli Sandwiches
• Fruit and Yogurt Munchable
• Yogurt Meal
• Fruit & Yogurt Parfait
• Beef Burger Patty
• Pizza products
• Spaghetti Sauce
• Low sodium mixed with regular
• 8 pc Roasted Chicken

Unacceptable Products To Date

• Unbreaded Chicken Breasts
• Low Sodium Tomato Soup
• Reduced Fat/Low Sodium Mac and Cheese
• Lower Sodium Pizzas
• Low Sodium Spaghetti Sauce
• Asian Chicken

Barriers

• Higher Cost of Lower Sodium Products
  • Tomato Soup
    6oz Reg 12¢ → 6oz LS 42¢
    6oz LS Mixed 27¢
  • Grilled Cheese Sandwich
    Reg 37¢ → SRF 56¢
  This is a 51% increase in cost!
• Lack of Lower Sodium Products
• Student Acceptability
• Naturally Occurring Sodium
• Skim Milk
  125mg per 8 oz serving

Achieving Sustainability

Organizational routines
• Organizational memory
• Flexibility & adaptability
• Values and rules

Institutionalized standards
• Standardized menus

Processes specific to sustainability
• Centralized resources for purchasing, planning, analyzing

Keys to Success

- Commitment to larger goal of providing nutritious food items and quality
- Soliciting support from school districts at all levels and engaging key stakeholders from schools and community
- Capitalizing on existing programs
We’ve Cut Over a Ton of Salt!

YEAR 01
- 1500 \rightarrow 1350 \text{ mg}

YEAR 02
- 1350 \rightarrow 1200 \text{ mg}

TO DATE
- Total \rightarrow 300 \text{ mg}

300 \text{ mg per meal per day}
\times 20,000 \text{ meals}
\times 180 \text{ days}
\rightarrow \text{ Convert mg to lbs}

= 2381 \text{ pounds in 2 years}

Questions

Broome County Sodium Reduction in Communities Project

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