Strategies to Limit Sugar-Sweetened Beverage Consumption in Young Children: Evaluation of Federal, State, and Local Policies and Programs

A Sponsor Perspective

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CHOBANI® FOUNDATION
WE FOCUS ON DEMOCRATIZING GOOD FOOD BY MAKING IT ACCESSIBLE TO YOUTH AND UNDERSERVED COMMUNITIES.

GIVING BACK TO OUR COMMUNITY MEANS:
- IMPROVING CHILDREN’S HEALTH
- PREVENTING OBESITY
- REDUCING THE BURDEN OF DIABETES

HEALTHY COMMUNITIES ENABLE PEOPLE TO BE PRODUCTIVE, LEAD ACTIVE LIFESTYLES, AND REDUCE THEIR RISK OF DIET-RELATED ILLNESSES.
Factors To Consider In Evaluating Policies And Programs To Limit SSB’s

Pragmatic Approaches

- Consider policies and programs that include education, values, choices, and practical applications/how-to’s
- Note policies and programs that align with the Dietary Guidelines
- Best practices should be practical choices: nutrient-dense beverages and water

Chenango County, New York
Children Consume Too Many Added Sugars and Too Few Nutrient-Dense Foods

Most do not meet recommendations for consumption of **fruit, vegetables, and dairy**

![Bar graphs showing consumption of dairy and vegetables over different age groups.](image)

**Dairy**

**Vegetables**

![Pie chart showing beverage consumption.](image)

**Protein Foods**

**Fruits & Fruit Juice**

**Vegetables**

**Beverages** (not milk or 100% fruit juice)

**Coffee & Tea**

**Soft Drinks**

**Fruit Drinks**

**Sport & Energy Drinks**

**Sugar-Sweetened Beverages**

**Condiments, Gravies, Spreads, Salad Dressings**

**Dairy**

**Mixed Dishes**

**Grains**

**Snacks & Sweets**

**SOURCE: 2015-2020 Dietary Guidelines for Americans.**
Simple Shifts Are Needed To Reduce Added Sugars Consumption Overall

Shift from Typical, Nutrient-Deficient Options to Nutrient-Dense Choices

**LOW NUTRIENT DENSITY**

**HIGH NUTRIENT DENSITY**

- **Choose a fruit smoothie instead of fruit drink or “punch”**
- **Opt for milk, 100% juice, water or other nutrient-dense beverages**

Replacing SSBs with milk or water is inversely associated with the development of obesity among children

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1 Zheng et al. Nutrition. 2015; (31) 38–44
A Framework for Categorizing the Types of Strategies Used

Strategies Targeting Determinants of Food Choice Behaviors

**Why-To**
- Health risks
- Attitudes and perceptions
- Self efficacy
- Social norms

**How-To**
- Action plans
- Knowledge
- Food and culinary skills
- Self-regulation

**Supportive Environments**
- Social support
- Community actions
- Policies, systems and food environments

**WHAT’S NEEDED:**
An inventory of practices for the future design of innovative, engaging, and sustainable programs at scale within local, state and national communities.

Figure adapted from: Contento IR. (2015). *Nutrition Education: Linking Research, Theory & Practice, 3rd Edition*. Jones and Bartlett; Burlington, MA.
### What Evidence Do We Have For Nutrition Education Approaches?

<table>
<thead>
<tr>
<th>Study</th>
<th>Type</th>
<th>Setting</th>
<th>Intervention</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grab a Cup, Fill it Up</strong></td>
<td>RCT</td>
<td>Schools</td>
<td>Nutrition education to increase availability of water in school settings</td>
<td>+0.58oz water per student; -3.3% prevalence of SSBs; no change in milk</td>
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<td><em>(Kenney et al, 2015)</em></td>
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<tr>
<td><strong>Great Taste, Less Waste</strong></td>
<td>RCT</td>
<td>Schools</td>
<td>Nutrition education to replace SSBs with water or low-fat dairy</td>
<td>No change in SSBs consumption (dairy is not reported)</td>
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<td><em>(Goldberg et al, 2015)</em></td>
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<tr>
<td><strong>Vida Saludable</strong></td>
<td>Pre/Post</td>
<td>Community Health Clinics</td>
<td>Group nutrition education sessions for mother-child dyads</td>
<td>SSBs decreased by 3oz/day; Milk increased 3.8oz/day</td>
</tr>
<tr>
<td><em>(Bender et al, 2013)</em></td>
<td>Intervention</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pediatric Obesity Counseling</strong></td>
<td>RCT</td>
<td>Primary Care</td>
<td>Nutrition education to replace SSBs with low-fat milk</td>
<td>Children and parents reduced intake of energy and increased low-fat milk</td>
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<td><em>(Raynor et al, 2012)</em></td>
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Creating Supportive Environments To Reduce SSB Consumption

What Evidence Do We Have For Policy, Systems, and Environment Approaches?

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<tbody>
<tr>
<td>Kid’s Live Well (Anzman-Frasca et al, 2015)</td>
<td>Pre/Post Intervention</td>
<td>Full Service Restaurants</td>
<td>Replace SSBs with milk or 100% juice</td>
<td>Increased purchases of milk (+3%) and 100% juice (+4%)</td>
</tr>
<tr>
<td>Child Care Policy Changes (Gortmaker et al, 2015)</td>
<td>Modeling</td>
<td>Child Care Settings</td>
<td>Replace SSBs with water, offer low-fat milk, limit 100% juice to 6oz</td>
<td>Decrease BMI by 0.0186 units (95% UI: 0.006, 0.043) per child</td>
</tr>
<tr>
<td>Penny-per-ounce SSB Tax (Wang et al, 2012)</td>
<td>Modeling</td>
<td>Retail</td>
<td>Tax on SSBs (assumes replacement with water, diet SSBs, milk, or juice)</td>
<td>Reduce SSB consumption by 15%</td>
</tr>
<tr>
<td>Berkeley SSB tax (Silver et al, 2017)</td>
<td>Pre/Post Intervention</td>
<td>Retail</td>
<td>Tax on SSBs (does not include milk or 100% juice)</td>
<td>Consumption of SSBs decreased; milk and yogurt drinks increased</td>
</tr>
</tbody>
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SSB Consumption is One Piece of the Healthy Eating Pattern Puzzle

Evaluating Strategies Should Consider Optimal Behavior Change Is Complex

- All foods within a healthy eating pattern fit together like a puzzle to meet nutritional needs without exceeding limits
- SSB consumption is associated with poor diet quality\(^1\) other adverse health behaviors\(^2-3\)
- Reducing, limiting or replacing SSBs in the diet each has unique nutritional effects
  - Food pattern modeling can be used to consider the effects of meeting dietary pattern recommendations\(^4\)
  - Availability and accessibility of replacements is also an important factor

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\(^1\) Piernas C et al. *Am J Epidemiol.* 2015; 181(9):661-667
\(^2\) Arsenault BJ et al. *Nutrients.* 2017; 9, 600
\(^3\) Burgermaster M et al. *J Acad Nutr Diet.* 2017;117:753-762.
THANK YOU

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