A Statewide Examination of Beverage Policy Implementation Among Child Care Programs in Georgia

NOPREN Drinking Water Working Group
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What % of US children spend time in child care each day?

A) 15%
B) 50%
C) 75%
D) 90%
What % of US children spend time in child care each day?

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B) 50%
C) 75%
D) 90%
Early Care and Education (ECE) Setting

Child Care Learning Centers

Family Child Care Homes

License Exempt Child Care

Any licensed or license-exempt program that provides care and education to children from birth to kindergarten
Early Care and Education (ECE) Setting is Critical for Obesity Prevention

75%  333,000  2/3+
Impact of Sugary Beverages (SBs) on Childhood Obesity

- Any liquid sweetened with various forms of added sugars
- SB intake contributes to childhood obesity
- 100% Juice intake also linked to higher BMIs
# National Beverage Recommendations for ECE Setting

<table>
<thead>
<tr>
<th>National Organizations</th>
<th>CACFP</th>
<th>NAM*</th>
<th>CFOC</th>
<th>CDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>No SB’s</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4-6 oz 100% Fruit Juice</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Low-fat and Fat-Free Milk</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>All day water availability</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*Follow CACFP Meal Pattern Guidelines*
## Rules That May Affect Beverage Policy Implementation in the Child Care Setting in Georgia

<table>
<thead>
<tr>
<th>Policy/Regulation/Standard</th>
<th>Child Care Learning Center (CCLC)</th>
<th>Family Child Care Home (FCCH)</th>
<th>License Exempt Child Care (LECC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible for participation in CACFP</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>State licensure requires adherence to CACFP standard regardless of participation in CACFP program</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eligible for voluntary participation in Quality Rated</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
Research Questions

1) What is the current status of implementation of beverage policies and practices among child care programs in GA?

2) Do disparities exist in the types of foods and beverages served in child care programs across GA?

3) How can study findings inform the development of an eLearning training to improve beverage policy implementation among child care providers in GA?
Methods

Beverage Policy Implementation & Disparities

- Statewide survey
- Qualitative examination of barriers to implementation
- GA Child Care Wellness Study

eLearning Format Preferences

- eLearning Survey
- Prior beverage policy training
- Internet use
- eLearning types

Prototype(s)

Interviews and Focus Groups
Study Sample

- Partnership with GA Department of Early Care and Learning (DECAL)
- Random sample of child care programs in GA (N=3054)
- Stratified by 6 CCR&R regions in GA and program type
Survey Distribution

Frequency checklist of 21 foods and beverages served in child care programs (Ritchie et al, 2012)

<table>
<thead>
<tr>
<th></th>
<th>Not Provided</th>
<th>Provided at Breakfast</th>
<th>Provided at Lunch</th>
<th>Provided at Dinner</th>
<th>Provided at Snack-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td></td>
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<tr>
<td>4</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Incentives
Data Analysis

- Dichotomous variables created for whether or not programs were in compliance with beverage policies.
- Chi-square tests to compare CACFP vs. non-CACFP programs & program types.
- Fisher exact test (or the Freeman–Halton extension)
- Significance level of 0.05
Survey Demographics

Race/Ethnicity of Children Enrolled
- 49% Black
- 42% White
- 5.2% Hispanic
- 1.9% Asian/Pacific Islander
- 1.6% Other

CACFP Participation
- 67% respondents participate in CACFP

Program Types*
- 46% FCCH
- 39% CCLC
- 15% LECC

Income Level
- 54% of child care programs served families with an income level of $35K or below

Response Rate
- 32%
  - Online Completion: 63%

2017 CACFP Meal Patterns
- 34% “know a lot” about 2017 meal patterns
- 75% follow the 2017 guidelines
- 18% had not heard of new 2017 CACFP meal patterns
Are ECE Programs in Georgia Serving Sugary Beverages to Young Children?
Are Child Care Programs in Georgia Serving Sugary Beverages to Young Children? 

96% Are not
# Current Beverage Policy Compliance in Georgia by CACFP Participation Status

<table>
<thead>
<tr>
<th>Beverage Policy</th>
<th>% in Compliance&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Significant Comparisons&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ECE Providers</td>
<td>CACFP (C)</td>
</tr>
<tr>
<td>No SBs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>96</td>
<td>98</td>
</tr>
<tr>
<td>4-6oz 100% juice&lt;sup&gt;3&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>85</td>
<td>83</td>
</tr>
<tr>
<td>Whole milk to 12-35 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>57</td>
</tr>
<tr>
<td>Skim or 1% to 2 years or older</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>57&lt;sup&gt;4&lt;/sup&gt;</td>
<td>79&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td>All day water availability&lt;sup&gt;6&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>36</td>
</tr>
</tbody>
</table>

<sup>1</sup>Percentages of total, CACFP participating, and non-CACFP participating ECE providers reporting compliance with beverage policies

<sup>2</sup>For CACFP (C) vs. non-CACFP (N) comparisons by cross-tabulations and Chi-square tests: * p<.05 **p<.001

<sup>3</sup>Percentages include scores for serving no juice and serving juice once a day

<sup>4</sup>Percentages include scores for serving skim and 1% milk

<sup>5</sup>Percentages include scores for serving 1% milk only

<sup>6</sup>Percentages combined scores of serving water 3 or more times per day
## Beverages Served to Children in Georgia Aged 0-5 Years by Percent Race/Ethnicity

<table>
<thead>
<tr>
<th>Beverage Best Practice</th>
<th>% Black&lt;sup&gt;1&lt;/sup&gt;</th>
<th></th>
<th>% White&lt;sup&gt;1&lt;/sup&gt;</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR&lt;sup&gt;2&lt;/sup&gt;</td>
<td>χ²(1)</td>
<td>p</td>
<td>OR</td>
<td>χ²(1)</td>
</tr>
<tr>
<td>Infants, Juice 0 times per day</td>
<td>0.995</td>
<td>3.718</td>
<td>0.054</td>
<td>1.005</td>
<td>3.819</td>
</tr>
<tr>
<td>Infants, Sugar-Sweetened Beverages&lt;sup&gt;2&lt;/sup&gt; 0 times per day</td>
<td>0.937</td>
<td>4.448</td>
<td>0.035</td>
<td>1.057</td>
<td>3.938</td>
</tr>
<tr>
<td>1-5 year olds, Juice 0 or 1 times per day</td>
<td>0.991</td>
<td>14.647</td>
<td>&lt;0.001*</td>
<td>1.008</td>
<td>11.052</td>
</tr>
<tr>
<td>1-5 year olds, Sugar-Sweetened Beverages 0 times per day</td>
<td>1.000</td>
<td>0.005</td>
<td>0.943</td>
<td>1.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Infants, breast milk or formula most often</td>
<td>0.994</td>
<td>0.619</td>
<td>0.431</td>
<td>1.010</td>
<td>1.595</td>
</tr>
<tr>
<td>Infants, breast milk or formula only</td>
<td>0.995</td>
<td>3.442</td>
<td>0.064</td>
<td>1.006</td>
<td>4.596</td>
</tr>
<tr>
<td>1-2 year olds, whole milk most often</td>
<td>0.992</td>
<td>20.173</td>
<td>&lt;0.001*</td>
<td>1.010</td>
<td>27.466</td>
</tr>
<tr>
<td>2-5 year olds, skim or 1% milk most often</td>
<td>1.006</td>
<td>7.945</td>
<td>0.005</td>
<td>4.000</td>
<td>8.488</td>
</tr>
<tr>
<td>2-5 year olds, skim or 1% milk only, or skim or 1% + rice/soy</td>
<td>1.001</td>
<td>0.256</td>
<td>0.613</td>
<td>0.999</td>
<td>0.461</td>
</tr>
<tr>
<td>Water available for self serve, inside and outside</td>
<td>1.000</td>
<td>0.059</td>
<td>0.808</td>
<td>0.998</td>
<td>1.602</td>
</tr>
</tbody>
</table>

<sup>1</sup> Each race has its own percentage, and is analyzed separately from all other races. Each race % is a continuous variable.

<sup>2</sup> In addition to reporting a Wald chi-square and p-value as for categorical variables, an odds ratio is also reported. Statistically significant odds ratio values indicated whether the provision of a certain beverage was more or less likely as the percent of a certain race/ethnicity increased by one percent.

<sup>3</sup> Includes beverages with added sugars (e.g., sweet tea, soda, lemonade)

*<sup>*p < 0.001</sup>
Key Characteristics of an Online Training

- Engaging
- Concise
- Relevant
- Accountable
GOAL: Create an interactive, online training program about beverage policy for ECE Providers
Development of iBevSmart

Use of Articulate 360

eLearning Training - 4 modules

- SBs
- Juice
- Milk
- Water

Modules Content:

- Introduction
- Background information
- Interactive games, quizzes, video
- Review of information covered
CACFP specific information will be indicated by a CACFP alert, like the one below.
iBevSmart Training: Interactive SB Learning Activities

Remove all the SSBs and place them on the table. Click ‘submit’ when you are done.
iBevSmart Training:
Interactive SB Learning Activities

Remove all the SSBs and place them on the table. Click 'submit' when you are done.
Future Implications

Collaboration with DECAL to examine possible changes in state child care regulations related to CACFP

Higher level of analysis to further examine health disparities

Large scale examination of iBevSmart to improve knowledge and behavior relating to beverage quality

Qualitative study to inform the development of a messaging campaign focused on decreasing SBs and increasing water for African American families in GA
Acknowledgements

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