

# Nutrition and Physical Activity Self-Assessment for Child Care

## Go NAP SACC



### Goals

The goals of Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) are the following: 1) to improve the nutritional quality of food served, 2) to improve the amount and quality of physical activities, 3) to improve child care center nutrition and physical activity policy, and 4) to encourage staff-child interactions.

### Program Features

NAP SACC interventions include the following components:

- **Self-Assessment:** The child care director and key staff complete the NAP SACC self-assessment tool, assessing the center on areas of nutrition and physical activity. The self-assessment is completed every six months.
- **Action Planning:** Based on self-assessment answers, with guidance and support from the NAP SACC consultant, centers choose three to four areas for improvement and create an Action Plan for making the improvements.
- **Workshops:** The NAP SACC consultant delivers four workshops to the child care center staff covering the topics: 1) childhood overweight, 2) nutrition for children, 3) physical activity for children, and 4) personal health and wellness for the staff.
- **Targeted technical assistance:** NAP SACC consultants maintain regular contact with the centers to provide support and guidance in making the improvements.

**Evaluate, Revise, and Repeat:** The NAP SACC self-assessment instrument is completed a second time to see where improvements have or have not been made. At this time the Action Plan is revised to include new goals and objectives and technical assistance continues.

Go NAP SACC is an updated version featuring new tools on an interactive website that builds on the foundation set by NAP SACC. Updates include resources for children birth – 5 years, a new focus on breastfeeding and infant feeding, screen times, and outdoor play. This updated version can be tailored for different child care settings including family child care homes.

For more information regarding Nutrition and Physical Activity Self Assessment for Child Care use this link: <http://www.napsacc.org/>.

### Go NAP SACC Snapshot

- **EC Profile Indicator:** H60 - Percent of low income children age 2-4 who are at a healthy weight
- **Clearinghouse Rating:** None
- **Research supports** use with early care professionals and preschool children 2 to 5 years of age
- **Related Smart Start outcomes:**
  - Increase in the provider practice of healthy behaviors
  - Increase in child practice of healthy behaviors
- **Purveyor training required:** Yes
- **Staff qualifications:** Smart Start funded Technical Assistance staff must meet TA Practitioner Qualifications
- **Minimal service threshold:** Completion of at least 1 cycle of the 5 steps of NAP SACC
- **Suggested Assessments:** Go NAP SACC assessment
- **Implementation Guidance:** <http://www.napsacc.org/>.

## Target Audience

Early care professionals and preschool children ages birth to 5 years of age

## Documented Outcomes

	Type of Study	Outcomes		
		Improved provider policies or practices related to nutrition or physical activity*	Increase in children's physical activity**	Increase in parent knowledge about nutrition or physical activity***
Alkon et.al. (2014) <sup>i</sup>	Experimental	✓	✓	✓
Battista et.al. (2014) <sup>ii</sup>	Descriptive	✓		
Benjamin et.al. (2007) <sup>iii</sup>	Quasi-experimental	✓		
Benjamin Neelon et. al. (2014) <sup>iv</sup>	Experimental	✓		
Ward et.al. (2007) <sup>v</sup>	Experimental	✓		

\*Aligned with Smart Start outcome *Increase in the provider practice of healthy behaviors*

\*\*Aligned with Smart Start outcome *Increase in children's practice of healthy behaviors*

\*\*\*Aligned with Smart Start outcome *Increase in parent knowledge*

## Research Evidence for Nutrition and Physical Activity Self-Assessment for Child Care

- The program is most often linked to improved provider policies or practices related to nutrition and physical activity.

## Review of Experimental and Quasi-Experimental Studies

<b>Citation</b>	<b>Benjamin, S. E., Ammerman, A., Sommers, J., Dodds, J., Neelon, B., &amp; Ward, D. S. (2007). Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC): Results from a pilot intervention. <i>Journal of Nutrition Education and Behavior</i>, 39(3), pp. 142-149.</b>
<b>Population and Sample</b>	19 child care centers (15 intervention, 4 comparison) located in 8 counties in North Carolina
<b>Methodology</b>	Experimental
<b>Purpose</b>	To determine the feasibility, acceptability, and reported impact of Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC), a nutrition and physical activity environmental intervention in child care.
<b>Measures &amp; Assessments</b>	<ul style="list-style-type: none"> <li>• Self-assessment instrument developed for the study</li> </ul>
<b>Study Implementation</b>	<ul style="list-style-type: none"> <li>• The NAP SACC consultant worked with the centers to develop an action plan to improve at least 3 areas from the pre self-assessment instrument. Those selected were not necessarily those with the lowest scores but those that would result in the most fitting and lasting environmental changes at the centers.</li> <li>• The trained NAP SACC consultant delivered three 30-minute workshops to center directors and interested providers in the centers on childhood overweight, healthful eating, and physical activity. Attendees were awarded continuing education credits.</li> <li>• Ongoing TA (visits and calls) was provided by the NAP SACC consultant to center directors to support center policy and practice changes.</li> <li>• Post self-assessments were completed at the end of the 6-month intervention period.</li> </ul>
<b>Staff Qualifications</b>	<ul style="list-style-type: none"> <li>• Child Care Health Consultants</li> </ul>
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>• Intervention centers rated themselves higher on the NAP SACC at follow-up than at baseline, and relative to comparison centers, reported a variety of environmental nutrition and physical activity improvements confirmed by research staff.</li> </ul>

<b>Citation</b>	<b>Ward, D. S., Benjamin, S. E., Zimmerman, A. S., Ball, S. C., Neelon, B. H., &amp; Bangdiwala, S. I. (2007). Nutrition and physical activity in child care: Results from an environmental intervention. American Journal of Preventive Medicine, 35(4), pp. 352-356.</b>
<b>Population and Sample</b>	<ul style="list-style-type: none"> <li>• 29 child care health consultants randomly assigned to intervention (n=20) or delayed-intervention control groups (n=9)</li> <li>• 82 child care centers (56 intervention, 26 control) recruited as a convenience sample from consultants' caseloads</li> </ul>
<b>Methodology</b>	Experimental; Randomized control trial
<b>Purpose</b>	To evaluate the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) intervention program.
<b>Measures &amp; Assessments</b>	<ul style="list-style-type: none"> <li>• Environment and Policy Assessment and Observation (EPAO) – administered pre and post training</li> </ul>
<b>Study Implementation</b>	<ul style="list-style-type: none"> <li>• The intervention included 5 steps: <ul style="list-style-type: none"> <li>○ Trained observers administered the EPAO before the intervention;</li> <li>○ The NAP SACC consultant worked with the centers to develop an action plan with the goal of affecting about 20% of the nutrition and physical activity components contained in the assessment.</li> <li>○ Center staff attended continuing education workshops;</li> <li>○ TA was provided by the consultants; and</li> <li>○ Trained observers completed the re-assessment following the intervention of about 6 months.</li> </ul> </li> <li>• Field observers were blinded to center group assignment (intervention, control).</li> <li>• Implementation fidelity was considered as a possible moderating factor but fidelity was not measured in a systematic way.</li> </ul>
<b>Staff Qualifications</b>	<ul style="list-style-type: none"> <li>• Child Care directors implemented the activities; Child Care Health Consultants provided training and technical assistance to child care directors</li> </ul>
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>• Of the 56 centers included in the intervention group, 41 completed most or all of the intervention and were included in the analysis.</li> <li>• The intervention centers showed an 11% improvement (not significant) from baseline to follow-up on the EPAO, while no change was observed in the control centers.</li> <li>• There was a significant pre/post difference on the EPAO between intervention groups that implemented the program and control groups for the nutrition items.</li> <li>• For the EPAO physical activity score, there was a positive change for the intervention group and a negative change for the control group. The difference between groups was not significant.</li> </ul>

<b>Citation</b>	<b>Alkon, A., Crowley, A. A., Benjamin Neelon, S. E., Hill, S., Pan, Y., Nguyen, V., Rose, R., Savage, E., Forestieri, N., Shipman, L., &amp; Kotch, J. B. (2014). Nutrition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. BMC Public Health, 14(215), pp. 1-13.</b>
<b>Population and Sample</b>	552 3-to-5-year olds (260 intervention, 292 control) 137 child care providers (76 intervention, 61 control)
<b>Methodology</b>	Experimental; Randomized control trial
<b>Purpose</b>	The purpose of this study was to evaluate the impact of the NAP SACC intervention conducted by trained nurse child care health consultants (CCHC) in licensed child care centers in three states. CCHCs are child health professionals with specialized training in child care health and safety issues. They conduct health and safety assessments, provide educational workshops in child care, consult with the directors on health and safety issues, and provide resources to help the center improve the quality of their health and safety policies and practices.
<b>Measures &amp; Assessments</b>	<ul style="list-style-type: none"> <li>• Diet Observation in Child Care (DOCC)</li> <li>• Environmental Physical Activity Observation (EPAO)</li> <li>• California Childcare Health Program (CCHP) Health and Safety Policies Checklist</li> <li>• Observation System for Recording Activity in Preschools (OSRAP)</li> <li>• Provider and Parent Questionnaires</li> <li>• Child height and weight measurements</li> </ul>
<b>Study Implementation</b>	<ul style="list-style-type: none"> <li>• Centers in the intervention group received \$500 for their participation and were asked to purchase equipment or supplies to support physical activity. Control centers received NAP SACC intervention in year two.</li> <li>• CCHCs facilitated five one-hour workshops for child care providers and other staff (e.g., cooks, administrators) at the intervention centers on childhood obesity, healthy eating for young children,</li> </ul>

	<p>physical activity for young children, personal health and wellness and working with families to promote healthy behaviors.</p> <ul style="list-style-type: none"> <li>• Seven intervention centers also received the “Raising Healthy Kids: parent workshop at their center locations.</li> <li>• CCHCs worked with center directors to write or update their nutrition and physical activity policies. They also provided at least monthly on-site consultations and additional phone or email consultations, and distributed posters and information sheets on nutrition and physical activities. Posters were displayed at the centers and information sheets were given to providers and parents.</li> <li>• Data collection occurred at baseline and seven months post-intervention at all centers.</li> <li>• Research assistants in each state, who were blinded to group assignment, completed observations of physical activity and nutrition and assessments of centers’ written policies and child-level height and weight measurements.</li> <li>• One additional research assistant, also blinded to group assignment, was trained to complete the NAP SACC measures of nutritional intake and physical activity based on observations of individual children in all three states. A 90% inter-rater reliability with the co-investigator was achieved prior to baseline data collection.</li> <li>• Center directors, child care providers, and parents completed demographic questions including information on ethnicity, education, and employment.</li> <li>• CCHCs completed a daily encounter form to report on consultation activities.</li> <li>• Child care director, provider, other staff, and parent knowledge were measured before and immediately after each workshop using four multiple choice questions per workshop.</li> </ul>
<b>Staff Qualifications</b>	<ul style="list-style-type: none"> <li>• Trained nurse child health professionals and child care providers</li> </ul>
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>• Results showed significant increases in providers’ and parents’ knowledge of nutrition and physical activity, center-level improvements in policies, and decrease in child-level mean BMI for the treatment sites and participants with complete data relative to the control sites.</li> </ul>

<b>Citation</b>	<b>Benjamin Neelon, S. E., Taveras, E. M., Ostbye, T., &amp; Gillman, M. W. (2014). Preventing obesity in infants and toddlers in child care: Results from a pilot randomized controlled trial. <i>Maternal Child Health Journal</i>, 18, 1246-1257.</b>
<b>Population and Sample</b>	Convenience sample of 32 child care centers randomly assigned to intervention (n=16) and control (n=16) groups
<b>Methodology</b>	Experimental; Randomized control trial
<b>Purpose</b>	This study evaluated a pilot intervention, Baby Nutrition and Physical Activity Self-Assessment for Child Care (Baby NAP SACC), to improve the nutrition and physical activity environments of child care centers serving infants and toddlers.
<b>Measures &amp; Assessments</b>	<ul style="list-style-type: none"> <li>• Environment and Policy Assessment and Observation (EPAO)</li> <li>• Child Care Director Survey</li> </ul>
<b>Study Implementation</b>	<ul style="list-style-type: none"> <li>• A self-assessment, completed by directors at all intervention centers at the onset of the study, was developed for the study as an intervention instrument to highlight the best practice response and spark change in intervention centers at the onset of the study.</li> <li>• Based on the self-assessment intervention consisted of five steps: 1) self-assessment; 2) action planning; 3) technical assistance; 4) training; and 5) re-assessment.</li> <li>• Trained interventionists worked with directors to choose four targets areas (two nutrition and two physical activity) for improvement based on the self-assessments and to create an action plan to make these changes.</li> <li>• Centers received ongoing technical assistance provided at least monthly by the interventionist during the 6-month intervention period. TA included training, research, and intervention materials focused on the behavioral targets.</li> <li>• During months two through four of the intervention, interventionist delivered two workshops to center staff focused on infant and toddler feeding and physical activity.</li> <li>• Center directors completed a follow-up self-assessment at the end of the intervention period.</li> <li>• The Registered Dietitian, who provided regular feedback and support to the interventionists, supervised all intervention activities.</li> </ul>
<b>Staff Qualifications</b>	<ul style="list-style-type: none"> <li>• Child care directors</li> <li>• Of the two interventionists, one had an MPH degree in health education and one had a BS degree in Nutrition and was also a certified athletic trainer. They received four weeks of training on nutrition and physical activity for infants and toddlers.</li> </ul>
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>• Intervention centers improved their obesity-related policies and practices, mostly driven by changes in physical activity.</li> </ul>

- At follow-up, EPAO score had increased by a mean of 12.8 points in the intervention group and decreased by 4.2 points in the control group.
- For the physical activity domain, sedentary time, physical activity environment, and physical activity staff behaviors were the primary domains contributing to improved EPAO sub-score.
- Based on follow-up questions of the 12 intervention directors, 92% reported being “satisfied” or “very satisfied” with the Baby NAP SACC intervention and 83% reported they would recommend the intervention to other center directors.

## Review of Meta-Analyses

None

## Review of Descriptive Studies and Non-Experimental Studies

<b>Citation</b>	<b>Battista, R., Oakley, H., Weddell, M. S., Mudd, L. M., Greene, J. B., &amp; West, S. T. (2014). Improving the physical activity and nutrition environment through self-assessment (NAP SACC) in rural area child care centers in North Carolina. Preventative Medicine, 67, pp. S10-S16.</b>
<b>Population and Sample</b>	29 child care centers with mini-grants to improve nutrition and/or physical activity at their center. School district-affiliated centers included only elementary school pre-kindergarten (Pre-K) programs for those aged 3–5 years. Unaffiliated centers included infants through children aged five years and were classified as private child care centers such as family, non-profit centers, and/or Head Start Program with sliding fee scales and are subsidized through the federal Child and Adult Care Food Program (CACFP).
<b>Methodology</b>	Pre/post within group
<b>Purpose</b>	To determine if child care centers in rural, Western North Carolina met recommendations for nutrition and physical activity, if focusing on nutrition and physical activity practices and policies was effective in improving the center environment, and if differences existed between centers affiliated or unaffiliated with schools.
<b>Measures &amp; Assessments</b>	<ul style="list-style-type: none"> <li>• Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC)</li> </ul>
<b>Study Implementation</b>	<ul style="list-style-type: none"> <li>• Local health departments recruited child care centers to participate in the study by soliciting mini-grants or requests for proposals ranging from \$1,000 to \$8,000 to be used for improving nutrition and/or physical activity at their centers. Funding was provided by the Centers for Disease Control Communities Putting Prevent to Work.</li> <li>• Center directors completed the initial self-assessment.</li> <li>• Following the pre-self-assessment, child care centers were awarded their grant money but were not allowed to purchase equipment until workshops were completed with 100% attendance.</li> <li>• CCHCs worked with center directors to choose three specific focus areas (one in nutrition, one in physical activity, one of their choice focused on either nutrition or physical activity) for improvement and to develop action plans.</li> <li>• CCHCs presented a series of three 2-hour workshops covering five topic areas within the first two weeks of the intervention. Workshops were designed to improve child care staff’s knowledge of nutrition and physical activity and to present strategies to change current practices and policies. Staff was provided with continuing education units for participating in the workshops.</li> <li>• Post assessment was completed approximately six months after the initial assessment.</li> </ul>
<b>Staff Qualifications</b>	<ul style="list-style-type: none"> <li>• Child care center directors and trained NAP SACC consultants</li> </ul>
<b>Key Findings</b>	<ul style="list-style-type: none"> <li>• At baseline, over 95% of the centers met all recommendations. However, post-intervention, results indicated significant improvement across center types in five out of 37 nutrition and seven out of 17 physical activity standards following the intervention.</li> <li>• Centers unaffiliated with schools made significant changes in ten nutrition standards, while those affiliated with schools improved in only two standards and decreased on one standard.</li> <li>• Overall, rural child care centers in Western North Carolina that were meeting standards were still able to strengthen policies and practices by following NAP SACC. This was especially true for centers unaffiliated with schools.</li> <li>• Continued financial support may assist centers in sustaining increased physical activity in children.</li> </ul>

## End Notes

---

<sup>i</sup> Alkon, A., Crowley, A. A., Benjamin Neelon, S. E., Hill, S., Pan, Y., Nguyen, V., Rose, R., Savage, E., Forestieri, N., Shipman, L., & Kotch, J. B. (2014). Nutrition and physical activity randomized control trial in child care centers improves knowledge, policies, and children's body mass index. *BMC Public Health*, 14(215), pp. 1-13.

<sup>ii</sup> Battista, R., Oakley, H., Weddell, M. S., Mudd, L. M., Greene, J. B., & West, S. T. (2014). Improving the physical activity and nutrition environment through self-assessment (NAP SACC) in rural area child care centers in North Carolina. *Preventative Medicine*, 67, pp. S10-S16.

<sup>iii</sup> Benjamin, S. E., Ammerman, A., Sommers, J., Dodds, J., Neelon, B., & Ward, D. S. (2007). Nutrition and Physical Activity Self-assessment for Child Care (NAP SACC): Results from a pilot intervention. *Journal of Nutrition Education and Behavior*, 39(3), pp. 142-149.

<sup>iv</sup> Benjamin-Neelon, S. E., Taveras, E. M., Ostbye, T., & Gillman, M. W. (2014). Preventing obesity in infants and toddlers in child care: Results from a pilot randomized controlled trial. *Maternal Child Health Journal*, 18, 1246-1257.

<sup>v</sup> Ward, D. S., Benjamin, S. E., Zimmerman, A. S., Ball, S. C., Neelon, B. H., & Bangdiwala, S. I. (2007). Nutrition and physical activity in child care: Results from an environmental intervention. *American Journal of Preventive Medicine*, 35(4), pp. 352-356.

## Additional Resources

University of North Carolina Center for Health Promotion and Disease Prevention. (n. d.). Nutrition and Physical Activity Self Assessment for Child Care (NAP SACC). Retrieved from <http://www.napsacc.org/>.

Note: Research summaries could include verbiage directly reproduced from the research literature. Quotes and italics may be used to show a direct quote but not always.

*Published: July 2018*