



# Changes to the USDA's Child and Adult Care Food Program Can Improve Children's Health

A review of the literature on meal and snack nutrition standard updates

## Overview

The federal Child and Adult Care Food Program (CACFP) provides funding for meals and snacks in a variety of child care, after-school, and adult day care institutions that contribute to the health and wellness of young children, older adults, and chronically impaired disabled people. More than 3 million children are served each day through this program. The U.S. Department of Agriculture (USDA) recently released a final rule that includes several updates to the program that are intended to better meet children's nutritional needs without increasing costs.

As part of an ongoing health impact assessment (see definition on page 4), the Kids' Safe and Healthful Foods Project conducted a systematic literature review to assess the potential impact of the USDA's proposed changes to the CACFP meal and snack nutrition standards for young children, which the agency first outlined in early 2015.<sup>1</sup> The researchers examined peer-reviewed and gray literature on the nutritional quality of foods served in CACFP, consumption rates, health disparities among participating children, nutrition-related health outcomes, and policy interventions that states and child care providers have implemented to improve consumption of healthy foods. Overall, the literature indicates that the updates to the CACFP nutrition standards present opportunities for positive health effects on the children the program serves.

Nationwide, the prevalence of obesity among children ages 2-5 declined from 14 percent in 2003-04 to 8 percent in 2011-12.<sup>2</sup> Despite this progress, children served by CACFP—those in this age group who are members of

low-income families and certain racial and ethnic groups—continue to experience higher rates of obesity than the broader population.<sup>3</sup> In 2011-12, 17 percent of Hispanic and 11 percent of black children ages 2-5 were obese, compared with 4 percent of non-Hispanic white children.<sup>4</sup>

Previous studies indicate that children who participate in CACFP are less likely to be overweight than those who do not.<sup>5</sup> However, CACFP nutrition guidance has not changed significantly since the program's inception in the 1960s, so foods served in participating child care settings are generally lower in fiber and higher in saturated fat and added sugars than is recommended by the Dietary Guidelines for Americans for preschool-age children.<sup>6</sup>

## **Probable effects of proposed updates to CACFP nutrition standards on children's health**

### Increased whole-grain intake

- The final rule increases the required servings of whole-grain-rich foods from zero to one a day and includes an optional best practice of at least two servings per day. Increasing the requirement should make whole-grain foods more available in child care settings, which in turn should improve children's intake in these settings, where meals and snacks generally lack whole grains and dietary fiber.<sup>7</sup> Further, studies show that child care providers—including those that participate in CACFP—consistently serve refined grains, cannot properly identify whole grains, and have low compliance for state-based whole-grain requirements.<sup>8</sup>
- Recent policy efforts to improve whole-grain and fiber intake show the possible positive impacts of the CACFP rule. For example, nutrition updates to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) have increased whole-grain consumption among mothers and children ages 1-4.<sup>9</sup> In addition, a study of 57 children from a racially and ethnically diverse preschool in Connecticut found a significant increase in fiber intake when meals were consistent with the 2011 Institute of Medicine proposal for updating CACFP guidance, which recommended that half of the grains served each day be whole-grain or whole-grain-rich.<sup>10</sup>

### Decreased consumption of grain-based desserts

- The rule excludes grain-based desserts, such as cakes, pies, and cookies, from federal reimbursement and limits the sugar in ready-to-eat breakfast cereals—which are not currently regulated—to 6 grams per dry ounce. These changes could result in a decrease in the serving and consumption of sweet grains and highly sweetened cereals and lower the levels of added sugars in foods served in child care settings.<sup>11</sup> Several of the studies reviewed show that, in general, CACFP child care centers are more likely than non-CACFP centers to limit sweets and sweet snacks,<sup>12</sup> but most still serve or include some of these foods on their menus.<sup>13</sup>
- The rule's focus on lowering consumption of sweet grains and sugary cereals in child care settings supports progress toward the Dietary Guidelines for Americans' recommendations to limit the average daily intake of added sugars to less than 10 percent of total calories.<sup>14</sup>

### Increased vegetable consumption

- The rule establishes a requirement that snacks for infants 6 to 11 months old include a fruit or vegetable serving. It also requires that lunch, supper, and snacks for all children have both one serving of fruit and one of vegetables, an improvement over current standards, which treat these produce types as one food component, potentially allowing the service of more fruits and fewer vegetables. For additional flexibility and to promote

---

These changes could have a particularly positive impact on intake of vegetables.

---

greater vegetable consumption, the new standard also allows child care providers to serve two types of vegetables instead of a fruit and a vegetable during lunch and supper.

- Evidence suggests that CACFP participation is associated with increased fruit and vegetable consumption among low-income preschool-age children.<sup>15</sup> In addition, studies show that increased variety of and exposure to foods, modified portion sizes, reformulated recipes, and better nutrition education are promising strategies to raise intake of fruits and vegetables.<sup>16</sup> The rule could build on CACFP's success in this area and further increase consumption of these foods through more frequent service and exposure at meals, which in turn may lead to increased preference. Given that children already eat more fruits than vegetables, these changes could have a particularly positive impact on intake of vegetables.<sup>17</sup>

## Recommendations

The available literature indicates that USDA, state agencies, and sponsors—organizations that oversee child care homes and centers and report to the state on their behalf—can further support, and help eliminate potential barriers to, successful implementation of the changes related to whole grains, vegetables, and grain-based desserts by providing CACFP child care providers with training and technical assistance to:

- Identify and select products, such as whole-grain-rich items, to maintain compliance with new regulations.<sup>18</sup>
- Support efforts to increase fruit and vegetable intake, such as adjustments to variety, portion size, and exposure; recipe modification; and nutrition education.<sup>19</sup>
- Identify added sugars on ingredient labels and encourage additional efforts to reduce added sugars in meals and snacks.

## Conclusion

Research suggests that the updated CACFP nutrition standards will have a positive effect on children's health. Although CACFP meals served in child care settings are already generally healthier than non-CACFP meals, significant room for improvement remains, particularly related to increasing vegetable and whole-grain consumption and lowering intake of added sugar.

To facilitate an effective implementation process of the final CACFP meal standards, USDA, state agencies, and sponsors should focus on technical assistance, education, and training for child care providers to ensure that the final rule has a positive impact on children's health.

## What Is a Health Impact Assessment?

Health impact assessments help decision-makers make better choices by bringing together scientific data, health expertise, and public input to identify the potential and often overlooked public health effects, both positive and negative, of proposed laws, regulations, projects, policies, and programs. HIAs broadly consider environmental, social, and economic factors related to health and evaluate the possible impacts of a proposed project, plan, program, or policy on the health and well-being of the community. HIAs employ a variety of data sources, including qualitative and quantitative analyses and input from stakeholders, to identify health concerns related to the proposal and determine how these impacts may be distributed among the population, especially vulnerable groups such as seniors, children, and low-income families.

### The HIA process\*

Step 1: Screening. The HIA team and stakeholders determine whether an HIA is needed, can be accomplished in a timely manner, and would add value to the decision-making process.

Step 2: Scoping. The HIA team and stakeholders identify the potential health effects that will be considered and develop a plan for completing the assessment, including specifying their respective roles and responsibilities.

Step 3: Assessment. The HIA team evaluates the proposed project, program, policy, or plan and identifies its most likely health effects using a range of data sources, analytic methods, and stakeholder input to answer the research questions developed during scoping.

Step 4: Recommendations. The team and stakeholders develop practical solutions that can be implemented within the political, economic, or technical limitations of the project or policy to minimize identified health risks and to maximize potential health benefits.

Step 5: Reporting. This step involves dissemination of information—including the HIA's purpose, process, findings, and recommendations—to a wide range of stakeholders.

Step 6: Monitoring and evaluation. The team and stakeholders evaluate the HIA according to accepted standards of practice. They also monitor and measure its impact on decision-making and on health.

---

\* R. Bhatia et al., *Minimum Elements and Practice Standards for Health Impact Assessment*, Version 3 (September 2014).

## Endnotes

- 1 The health impact assessment will supplement the literature with stakeholder perspectives and data analyses.
- 2 Pediatric Nutrition Surveillance System, "Growth Indicators by Race/Ethnicity and Age, 2011," accessed April 29, 2016, <http://www.cdc.gov/pednss/>; C.L. Ogden et al., "Prevalence of Childhood and Adult Obesity in the United States: 2011-2012," *The Journal of the American Medical Association* 311, no. 8 (2014): 806-814, doi:10.1001/jama.2014.732.
- 3 Pediatric Nutrition Surveillance System, "Growth Indicators by Race/Ethnicity or Age, 2011"
- 4 C.L. Ogden et al., "Prevalence of Childhood and Adult Obesity in the United States: 2011-2012."
- 5 Sanders Korenman et al., "The Child and Adult Care Food Program and the Nutrition of Preschoolers," *Early Child Research Quarterly* 28, no. 2 (2013): 325-336, doi:10.1016/j.ecresq.2012.07.007; Rachel A. Gordon et al., "The Child and Adult Care Food Program: Who Is Served and What Are Their Nutritional Outcomes?" *Social Service Review* 85, no. 3 (2011): 359-400, doi:10.3386/w16148; Rachel Tolbert Kimbro and Elizabeth Rigby, "Federal Food Policy and Childhood Obesity: A Solution or Part of the Problem?" *Health Affairs* 29, no. 3 (2010): 411-418, doi:10.1377/hlthaff.2009.0731; Annie Gayman et al., "Child Care Feeding Programs Support Young Children's Healthy Development," *Children's Healthwatch* (January 2010).
- 6 Tara L. LaRowe et al., "Dietary Intakes and Physical Activity Among Preschool-Aged Children Living in Rural American Indian Communities Before a Family-Based Healthy Lifestyle Intervention," *Journal of the Academy of Nutrition and Dietetics* 110, no.7 (2010): 1049-1057, doi:10.1016/j.jada.2010.04.009; Debbie A. Lown et al., "Effect of Variable Energy Served on 24-Hour Energy Intake in 16 Preschools, Chicago, Illinois, 2007," *Preventing Chronic Disease* 8, no. 3 (2011): A58, [http://www.cdc.gov/pcd/issues/2011/may/10\\_0145.htm](http://www.cdc.gov/pcd/issues/2011/may/10_0145.htm); Marlene B. Schwartz et al., "Comparing Current Practice to Recommendations for the Child and Adult Care Food Program," *Childhood Obesity* 11, no. 5 (2015): 1-8, doi:10.1089/chi.2015.0041; Ashley M. Frampton et al., "What's for Lunch? An Analysis of Lunch Menus in 83 Urban and Rural Oklahoma Child-Care Centers," *Journal of the Academy of Nutrition and Dietetics* 114, no. 9 (2014): 1367-1374, <http://dx.doi.org/10.1016/j.jand.2013.09.025>; Temitope O. Erinoshio et al., "Nutrition Practices and Children's Dietary Intakes at 40 Child-Care Centers in New York City," *Journal of the Academy of Nutrition and Dietetics* 111, no. 9 (2011): 1391-1397, doi:10.1016/j.jada.2011.06.001; Temitope O. Erinoshio et al., "Assessing Foods Offered to Children at Child-Care Centers Using the Healthy Eating Index-2005," *Journal of the Academy of Nutrition and Dietetics* 113, no. 8 (2013): 1084-1089, doi:10.1016/j.jand.2013.04.026.
- 7 Tara L. LaRowe et al., "Dietary Intakes and Physical Activity Among Preschool-Aged"; Debbie A. Lown et al., "Effect of Variable Energy Served on 24-Hour Energy Intake."
- 8 Marlene B. Schwartz et al., "Comparing Current Practice to Recommendations for the Child and Adult Care Food Program"; Joyce Maalouf et al., "Assessment of Mealtime Environments and Nutrition Practices in Child Care Centers in Georgia," *Childhood Obesity* 9, no. 5 (2013): 437-445, doi:10.1089/chi.2013.0018; Laura Lessard, Sarah W. Leng, and Robin Brennan, "Consistency of Compliance With Nutrition-Related Regulations Among Delaware Child Care Centers," *Childhood Obesity* 9, no. 3 (2013): 233-239, doi:10.1089/chi.2012.0126; Bridget Igoe, "What's on the Menu? An Evaluation of the Foods Served in Federally Subsidized Child Care Homes" (MPH diss., University of Washington, 2012); Pablo Monsivais, Shannon Kirkpatrick, and Donna B. Johnson, "More Nutritious Food Is Served in Child-Care Homes Receiving Higher Federal Food Subsidies," *Journal of the Academy of Nutrition and Dietetics* 111, no. 5 (2011): 721-726, doi:10.1016/j.jada.2011.02.007.
- 9 Mary Ann Chiasson et al., "Changing WIC Changes What Children Eat," *Obesity* 21, no. 7 (2013): 1423-1429, doi:10.1002/oby.20295; Shannon E. Whaley et al., "Revised WIC Food Package Improves Diets of WIC Families," *Journal of Nutrition Education and Behavior* 44, no. 3 (2012): 204-209, doi:10.1016/j.jneb.2011.09.011.
- 10 Meghan O'Connell, Danielle Correia, and Kathryn E. Henderson, "Impact of the Institute of Medicine's Recommendations to the Child and Adult Care Food Program on Preschoolers' Intake," paper presented at the annual meeting for the American Public Health Association, Boston, Nov. 2-6, 2013.
- 11 Laura Lessard, Sarah W. Leng, and Robin Brennan, "Consistency of Compliance With Nutrition-Related Regulations Among Delaware Child Care Centers."
- 12 Bridget Igoe, "What's on the Menu?"; Sanders Korenman et al., "The Child and Adult Care Food Program and the Nutrition of Preschoolers"; Lorrene D. Ritchie et al., "Participation in the Child and Adult Care Food Program Is Associated With More Nutritious Foods and Beverages in Child Care," *Childhood Obesity* 8, no. 3 (2012): 224-229, doi:10.1089/chi.2011.0061.
- 13 Joyce Maalouf et al., "Assessment of Mealtime Environments and Nutrition Practices in Child Care Centers in Georgia"; Kristen A. Copeland et al., "Nutritional Quality of Meals Compared to Snacks in Child Care," *Childhood Obesity* 9, no. 3 (2013): 223-232, doi:10.1089/chi.2012.0138; Bridget Igoe, "What's on the Menu?"; Sara E. Benjamin Neelon et al., "Nutrition Practices and Mealtime Environments of North Carolina Child Care Centers," *Childhood Obesity* 8, no. 3 (2012): 216, doi:10.1089/chi.2011.0065; Stewart G. Trost et al., "Nutrition and Physical Activity Policies and Practices in Family Child Care Homes," *American Journal of Preventive Medicine* 37, no. 6 (2009): 537-540, doi:10.1016/j.amepre.2009.09.020.

- 14 U.S. Department of Health and Human Services and U.S. Department of Agriculture, *Dietary Guidelines for Americans*, 2015, "A Closer Look at Current Intakes and Recommended Shifts," accessed March 23, 2016, <http://health.gov/dietaryguidelines/2015/guidelines/chapter-2/a-closer-look-at-current-intakes-and-recommended-shifts/#figure-2-9>.
- 15 Rachel A. Gordon et al., "Food Subsidies for Child Care Providers: Correlates of Program Participation and Child Outcomes," Harris School of Public Policy Studies, University of Chicago (December 2009); Rachel A. Gordon et al., "The Child and Adult Care Food Program: Who Is Served and What Are Their Nutritional Outcomes?"
- 16 Liane S. Roe et al., "Serving a Variety of Vegetables and Fruit as a Snack Increased Intake in Preschool Children," *American Journal of Clinical Nutrition* 98, no. 3 (2013): 693-699, doi:10.3945/ajcn.113.062901; Stephanie Anzman-Frasca et al., "Repeated Exposure and Associative Conditioning Promote Preschool Children's Liking of Vegetables," *Appetite* 58, no. 2 (2012): 543-553, doi:10.1016/j.appet.2011.11.012; Fawaz Almansour, "Boosting Lunch Is in the Bag" (Ph.D. diss., University of Texas at Austin, 2011); Kendra E. Witt and Carolyn Dunn, "Increasing Fruit and Vegetable Consumption Among Preschoolers: Evaluation of Color Me Healthy," *Journal of Nutrition Education and Behavior* 44, no. 2 (2012): 107-113, doi:10.1016/j.jneb.2011.01.002; Mary Ann Chiasson et al., "Changing WIC Changes What Children Eat"; Gabrielle M. Turner-McGrievy, Sarah B. Hales, and Angela C. Baum, "Transitioning to New Child-Care Nutrition Policies: Nutrient Content of Preschool Menus Differs by Presence of Vegetarian Main Entrée," *Journal of the Academy of Nutrition and Dietetics* 114, no. 1 (2014): 117-123, doi:10.1016/j.jand.2013.07.036; Lisa J. Harnack et al., "Results From an Experimental Trial at a Head Start Center to Evaluate Two Meal Service Approaches to Increase Fruit and Vegetable Intake of Preschool Aged Children," *International Journal of Behavioral Nutrition and Physical Activity* 9 (2012): 51, doi:10.1186/1479-5868-9-51; Maureen K. Spill et al., "Eating Vegetables First: The Use of Portion Size to Increase Vegetable Intake in Preschool Children," *American Journal of Clinical Nutrition* 91, no. 5 (2010): 1237-43, doi:10.3945/ajcn.2009.29139.
- 17 U.S. Department of Health and Human Services and U.S. Department of Agriculture, *Dietary Guidelines for Americans*, 2015, "Figure 2-3: Average Daily Food Group Intakes by Age-Sex Groups, Compared to Ranges of Recommended Intake," accessed March 11, 2016, <http://health.gov/dietaryguidelines/2015/guidelines/chapter-2/a-closer-look-at-current-intakes-and-recommended-shifts/#figure-2-3-desc-toggle>; Stephanie Anzman-Frasca et al., "Repeated Exposure and Associative Conditioning Promote Preschool Children's Liking of Vegetables."
- 18 Marlene B. Schwartz et al., "Comparing Current Practice to Recommendations for the Child and Adult Care Food Program."
- 19 Liane S. Roe et al., "Serving a Variety of Vegetables and Fruit as a Snack Increased Intake in Preschool Children"; Stephanie Anzman-Frasca et al., "Repeated Exposure and Associative Conditioning Promote Preschool Children's Liking of Vegetables"; Fawaz Almansour, "Boosting Lunch Is in the Bag"; Kendra E. Witt and Carolyn Dunn, "Increasing Fruit and Vegetable Consumption Among Preschoolers"; Mary Ann Chiasson et al., "Changing WIC Changes What Children Eat"; Gabrielle M. Turner-McGrievy, Sarah B. Hales, and Angela C. Baum, "Transitioning to New Child-Care Nutrition Policies"; Lisa J. Harnack et al., "Results From an Experimental Trial at a Head Start Center"; Maureen K. Spill et al., "Eating Vegetables First."

**KIDS' SAFE &  
HEALTHFUL  
FOODS PROJECT**

  
Robert Wood Johnson  
Foundation

 **THE  
PEW**  
CHARITABLE TRUSTS

**Contact:** Matt Mulkey, manager, communications

**Email:** [mmulkey@pewtrusts.org](mailto:mmulkey@pewtrusts.org)

**Project website:** [healthyschoolfoodsnow.org](http://healthyschoolfoodsnow.org)

**The Kids' Safe and Healthful Foods Project**, a collaboration between The Pew Charitable Trusts and the Robert Wood Johnson Foundation, provides nonpartisan analysis and evidence-based recommendations to make sure that all foods and beverages sold in U.S. schools are safe and healthful.