

*A case study of afterschool practices from a five-year community training and technical assistance intervention shows the promise of policy change for promoting healthier afterschool environments.*

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## Creating healthier afterschool environments in the Healthy Eating Active Communities program

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AFTERSCHOOL PROGRAMS HAVE the potential to put children on the path toward healthy and productive lives.<sup>1</sup> They are uniquely positioned to play a role in obesity prevention by providing an environment where children can eat healthy and be physically active.<sup>2</sup> Since childhood obesity prevention occurs in complex and dynamic social contexts and systems, each environment in which children live, learn, and play contributes to their well-being. Afterschool programs present an opportunity not only to support children academically, but also to develop lifelong healthy eating and physical activity habits. Afterschool programs in California have the potential to play a major role in obesity prevention, since they reach almost a million low-income children through a combination of federal, state, and local funding.<sup>3</sup>

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### *Description of the Healthy Eating Active Communities program*

In 2005, The California Endowment (TCE), a California-based foundation, launched a five-year initiative called the Healthy Eating Active Communities (HEAC) program.<sup>4</sup> Guided by a comprehensive logic model, the goal of HEAC was to demonstrate that disparities related to childhood obesity and diabetes can be reduced in communities that offer families accessible and affordable opportunities for healthy eating and physical activity. TCE funded six HEAC collaboratives in six low-resource, ethnically diverse communities to create policy and environmental changes to increase access to healthy food and physical activity opportunities for children and families. The afterschool setting (or sector) constituted one of five key settings (school, afterschool, neighborhood, health-care, and marketing/advertising) that can influence children's nutrition and physical activity behaviors.

To enable them to make policy and environmental changes to improve healthy eating and physical activity, the collaboratives received extensive training and technical assistance to increase their organizational capacity to do this work.

The evaluation of HEAC was a prospective, longitudinal study that used a multimethod approach to assess the extent of environmental change in each sector. A comprehensive HEAC evaluation is described in another chapter.<sup>5</sup> This chapter describes the HEAC afterschool sector initiative, reviews findings from the nutrition component of the HEAC afterschool evaluation, and concludes with strategies that were used to implement the five-year training and technical assistance intervention initiative.

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### *Approach*

Training and technical assistance for the afterschool sector were provided by CANFIT, a national nonprofit that works with community-based and youth-serving organizations to identify

local solutions and support the development of culturally competent policies and practices that support healthy eating and physical activity in low-resource communities.

### *Goal and strategy of the HEAC afterschool sector*

To promote healthy eating and make healthy foods accessible, the HEAC afterschool sector worked to adopt policies such as California's SB12, which defines nutrition standards for schools; SB965, which defines beverage standards for schools; and the Child and Adult Care Food Program nutrition standards.<sup>6</sup> Other strategies included restricting food marketing to children, implementing soda bans, and engaging in community advocacy activities.

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### *Methods*

Within each HEAC school sector community site, we recruited afterschool programs to participate in the initiative. Although nineteen afterschool programs participated at baseline, fourteen programs provided the baseline and endpoint data described in this report: six elementary-level programs, five middle-school-level programs, one high-school-level program, and two community-level programs that included children in grades K–12. Four middle school programs and one high school program did not complete the initiative due to staff turnover and were not included in the endpoint analysis. We collected baseline data in spring 2005 and collected endpoint data in a two-month period in 2009. The evaluation was approved by the University of California at Berkeley Committee for the Protection of Human Subjects.

The research questions sought to discover what policies were in place, and to assess the extent to which foods and beverages offered to students adhered to SB12 and SB965 nutrition standards at baseline and follow-up. We collected data using tools developed by the Samuels Center, which examined beverage and à la carte food offerings and sales. We also conducted a telephone survey of thirty-two stakeholders (afterschool program administrators and

staff, HEAC coordinators, and parents) in each of the six HEAC communities.

CANFIT supported the HEAC afterschool programs in becoming early adopters of the California state school nutrition standards. Based upon baseline findings for foods and beverages, CANFIT provided technical assistance, professional development, and training to assist the HEAC afterschool programs in developing culturally specific policies and strategies to implement the new state standards. CANFIT also trained programs to engage youth and community members in developing strategies during the policy implementation process.

### *Afterschool food environment measures*

To measure the impact of nutrition policies in afterschool settings, trained observers used the After School Beverage and Food Environmental Assessment tool at baseline to describe the type of afterschool program, its source of funding, foods and beverages available, any advertisement and promotion of snack foods, and nutrition policies being implemented.

At the endpoint, we captured the same information using a web-based tool called FoodBEAMS<sup>®</sup> (Food and Beverage Environment Analysis and Monitoring System), which is an electronic version of the paper tool developed by the Samuels Center.<sup>7</sup> Using a computer or tablet, evaluation staff entered foods and beverages that they observed to be available or offered to afterschool youth into FoodBEAMS, collecting the product brand name, nutritional content, size, and price.

### *Analysis of food and beverage data*

The foods and beverages that were entered into FoodBEAMS were then matched to items in a nutrient database; for observed foods and beverages that were not included in FoodBEAMS, nutrient profiles were gathered by calling the food and beverage companies and/or reviewing company websites for information on calories, fat grams, sugar grams, sodium and caffeine, percentage of juice, vitamins, minerals, and added sweeteners. Nutrient profiles for existing

food and beverages were also verified for accuracy, as products are often reformulated. Data from FoodBEAMS were exported into Excel, where they were cleaned and prepared for analysis. The cleaned data were then exported into the Statistical Package for the Social Sciences, which was used to conduct all of the analyses to determine whether food and beverage items adhered to California's SB12 and SB965 nutrition standards. Food and beverages were grouped into broad categories such as fruits and vegetables or sports drinks. For example, strawberries, apples, and grapes were categorized in the fruit and vegetable category, and Gatorade and Powerade were categorized as sports drinks.

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## *Findings*

The key outcome assessed was change in adherence to the beverage and foods standards from baseline to endpoint. At baseline, beverages and foods were available through vending machines, snack bars, school stores, and the afterschool snack program.

### *Beverage availability and adherence to California SB965*

At the endpoint, beverages either were provided as snacks by the afterschool program or were available to participants through vending machines.

Overall, available evidence indicated increases in the proportion of beverages that adhered to guidelines between 2005 and 2009 (Table 3.1). For example, by program type, adherence to SB965 increased for the six elementary programs from 71 percent of beverages at baseline to 100 percent at endpoint. For the two community programs, adherence increased from 14 percent of beverages to 100 percent adherence. Middle and high school data are inconclusive due to losses to follow-up.

At the endpoint, across all programs, we observed a range of beverages including 100 percent juice, water, sports drinks, low-fat milk, sweetened juice drinks, and cold tea (Table 3.2). In elementary programs, 100 percent juice was the only beverage

**Table 3.1. Baseline and endpoint beverage adherence to SB965 by program type**

<i>Program type</i>	<i>Baseline (2005)</i> <i>N = 19</i>		<i>Endpoint (2009)</i> <i>N = 14</i>	
	<i>Number of programs</i>	<i>Percent of all beverages adherent to SB965</i>	<i>Number of programs</i>	<i>Percent of all beverages adherent to SB965</i>
Elementary	6	71	6	100
Middle	9	91	5	100
High	2	72	1	64
Community	2	14	2	100

observed. In middle and high school programs, sugar-sweetened beverages predominated. In middle schools, sports drinks were most frequently observed (75 percent of beverages), followed by 100 percent juice (16 percent of beverages). For the high school

**Table 3.2. Distribution of snacks and beverages offered in HEAC afterschool programs, by program type, at endpoint**

<i>Beverage or food type</i>	<i>Elementary</i> <i>(N = 6)</i>	<i>Middle</i> <i>(N = 5)</i>	<i>High</i> <i>(N = 1)</i>	<i>Community</i> <i>(N = 2)</i>
<b>Beverages</b>				
100% juice	100%	16% <sup>a</sup>	12%	25%
Water	–	6%	12%	13%
Sports drink	–	75%	32%	63%
Milk, < 2% fat	–	3%	8%	–
Sweetened juice drink	–	–	24%	–
Tea	–	–	12%	–
<b>Foods</b>				
Crackers, pretzels, and popcorn	34%	14%	7%	7%
Fruit and vegetables	25%	29%	–	5%
Cereal and oatmeal	17%	7%	–	–
Trail mix	8%	7%	4%	–
Snack bars	8%	15%	16%	26%
Cake and pastry products	8%	–	6%	–
Snack mix and other snacks	–	14%	11%	10%
Seeds and nuts	–	7%	5%	5%
Bagels and breads	–	7%	–	–
Chips	–	–	22%	9%
Baked chips	–	–	11%	7%
Cookies	–	–	7%	7%
Candy	–	–	6%	7%
Sugar-free candy	–	–	–	10%
Yogurt	–	–	–	5%

<sup>a</sup>For example, 16% of beverages observed in middle schools were 100% juice.

**Table 3.3. Baseline and endpoint food adherence to SB12 by program type**

<i>Program type</i>	<i>Baseline (2005)</i> <i>N = 19</i>		<i>Endpoint (2009)</i> <i>N = 14</i>	
	<i>Number of programs</i>	<i>Percent of all foods adherent to SB12</i>	<i>Number of programs</i>	<i>Percent of all foods adherent to SB12</i>
Elementary	6	31	6	67
Middle	9	19	5	79
High	2	40	1	55
Community	2	21	2	84

program, sports drinks were most frequently observed (32 percent of beverages), followed by sweetened juice drinks (24 percent). For the community program with a mix of ages, sports drinks were most frequently observed (63 percent), followed by 100 percent juice (25 percent).

#### ***Food adherence to California SB12***

Overall, the proportion of afterschool snacks that adhered to SB12 increased between 2005 and 2009 (Table 3.3). By program type, adherence to SB12 increased from baseline to endpoint from 31 percent of snacks to 67 percent for elementary programs and from 21 percent to 84 percent for community programs. Since not all middle and high school programs participated at endpoint, the observed improvement in adherence is not conclusive in these subgroups.

Despite these improvements in snacks, at endpoint, across all programs, we observed a wide range in snack type and quality (Table 3.1). For elementary programs, foods that fell into the crackers, pretzels, and popcorn category were observed most often (34 percent of foods), followed by fruits and vegetables (25 percent) and cereal or oatmeal (17 percent). For middle school programs, foods that fell into the fruits and vegetables category were observed most often (29 percent of foods), followed by snack bars (15 percent); crackers, pretzels, and popcorn (14 percent); and snack mix (14 percent). For the high school program, the most common category of foods was chips (22 percent), followed by snack bars

(16 percent) and the baked chips and snack mix categories (11 percent each). For the community program with a mix of ages, foods in the snack bar category were most frequent (26 percent), followed by the snack mix and sugar-free candy categories (10 percent each).

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## ***Discussion***

Although beverage and food adherence to state standards increased overall from baseline to endpoint, the high prevalence of sports drinks and processed snack foods at endpoint (Table 3.2) demonstrates the weaknesses of SB965 and SB12 in addressing healthy eating. In order to be more effective, afterschool beverage and food policies need to be explicit in specifying guidelines for reducing consumption of sugar-sweetened beverages and highly processed snack foods.

### ***Lessons learned for improving afterschool nutrition environments***

From the HEAC experience, much has been learned about policy initiatives to improve community nutrition. HEAC implemented the following policy strategies in the afterschool sector in response to lessons learned in the field:

- Adopt and monitor nutrition standards in school- and community-based afterschool programs.
- Ensure that afterschool programs participate in federally funded reimbursable snack and meal programs.
- Provide staff training and professional development on nutrition for afterschool personnel.
- Engage youth in selecting snack and meal menus.
- Link afterschool programs to community resources and build relationships with advocates for healthy youth.

Evaluations that document the process and impact of environmental changes are crucial to understanding and replicating the policy and environmental change approach. The HEAC experience demonstrated that environmental changes take time to

unfold and that policies, once adopted, may take years for full implementation. The HEAC evaluation also uncovered the limitations of weak policies that do not make a significant change in the environment: They are not likely to affect health behaviors and outcomes. Examples of weak policies include vending machine policies that require only 50 percent of items sold to adhere to nutrition standards, and nutrition policies that eliminate soda and candy but permit empty-calorie baked chips and sports drinks.

Creating healthful eating and physical activity environments in communities where disparities are prevalent requires a shift from policies, practices, and norms that make unhealthful foods and inactivity abundant and attractive to policies and practices that position healthful foods and physical activity as the easiest and most accessible options. Afterschool programs reach a broad group of children and youth on school campuses and in the community. To create healthful afterschool environments, the following conditions are necessary: coordination between school- and community-based afterschool programs, implementation of nutrition standards, full utilization of existing community resources, sharing of lessons learned and best practices, and advocacy by parents and youth.

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### *Study limitations*

This evaluation took advantage of a policy change to examine its impact at the community level. As such, the design reflected available resources and data. Overall, since the afterschool HEAC initiative was a natural experiment without a comparison group, it is difficult to attribute a specific outcome to a particular strategy or policy change.

At the inception of HEAC, methods to measure nutrition environmental change strategies were developed ad hoc and the instruments were not systematically validated. The data we present are from a small number of programs participating in the study and we experienced losses to follow-up among participating programs

from baseline to endpoint. Moreover, the evaluation of the afterschool sector used a single group design without a comparison or control. Despite these limitations, this report does provide insight into the unique trajectory initiated by SB12 and SB965. HEAC was an innovative initiative that tested the effects of environmental and policy approaches to obesity prevention on a community-wide scale. From this work, research to evaluate these types of initiatives is better poised to capture the salient outcomes and lessons learned from environmental and policy change initiatives.

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## ***Conclusion***

Through generous funding from TCE, HEAC communities were in the forefront of building the movement in California to transform afterschool environments and to define the elements of healthy afterschool programs. These elements include both healthy eating, described here, and physical activity. The HEAC intervention provided valuable insights into the expert panel members (including the lead author of this chapter) convened by the California Department of Education to develop the California Snack and Meal Standards for Afterschool Programs and After School Physical Activity Guidelines in 2009.<sup>8</sup> However, adequate, stable, and dedicated funding sources are needed in order to achieve these goals and to support and sustain the progress being made in improving nutrition and physical activity in afterschool programs.

## ***Notes***

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