

# CONTROLLING JUNK FOOD

## and the Bottom Line



Case Studies of Schools Successfully  
Implementing Strong Nutrition Standards  
for Competitive Foods and Beverages

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UNIVERSITY OF ILLINOIS AT CHICAGO RESEARCH AND POLICY

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The competition aims to foster greater awareness of policy as an intervention to support public health goals, inspire cross-agency collaboration within CDC, and promote innovative public health policy projects conducted collaboratively by CDC and the National Network of Public Health Institutes (NNPHI) member institutes.

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The foods and beverages in schools have a significant impact on children's diets and weight as many students consume more than half of their daily calories at school.<sup>1</sup>

While the U.S. Department of Agriculture's (USDA) reimbursable meal programs, the National School Lunch Program (NSLP) and School Breakfast Program (SBP), are regulated to ensure proper nutrition, the majority of students in middle schools and high schools can purchase foods and beverages outside of these programs from vending machines, school stores, and à la carte lines.<sup>2</sup> The term "competitive foods" refers to all such foods available outside of the NSLP and SBP.

Currently, the only federal regulations applying to competitive foods are those that limit the sale of foods that are of minimal nutrition value (*i.e.*, <5% of the recommended dietary allowance (RDA) per serving for eight key nutrients and bans on the sale of carbonated beverages and certain types of candies).<sup>3</sup> Foods of minimal nutritional value (FMNV) cannot be sold during meal periods in the areas where meals are sold or eaten, but can be sold anywhere else in a school at any time. Starting in the 2006-2007 school year, all school districts participating in the federal child nutrition program(s) (including school meal programs, milk programs, after school snack programs) were required to have a wellness policy that includes nutritional guidelines for competitive foods. However, current Federal law does not require that school districts make their guidelines for competitive foods more restrictive than the USDA FMNV policy.

Across the country, many district-level policies are very weak, only applying to certain locations, grade levels, or categories of beverages or nutrients in foods, and few districts have strong competitive food standards that are definitively required across grade levels, locations of sale, or a wide range of beverages and nutrients in foods.<sup>4-5</sup> In fact, as of school year 2010-11, the competitive food standards are the weakest element in district wellness policies.<sup>6</sup>

Implementing strong nutrition standards in schools is an important component of comprehensive school health reform. Changes to nutrition standards are often challenging to adopt due to concerns about negative impacts on school profits and fundraising. Yet, as is shown by this study, some districts across the country have implemented stronger nutrition standards without a significant negative financial impact.

This report highlights case studies from middle schools and high schools in eight diverse districts across the country that illustrate it is possible for schools and districts to improve nutrition standards without experiencing significant financial losses. This study focused on policies and practices in middle and high schools (rather than elementary or early childcare settings) because competitive foods



are most widely available in the secondary school levels. (However, a review of the early childhood literature is included as Appendix B.)

The study looked at an array of situations, including districts with a wide range of socio-economic status; districts implementing strong state standards and districts leading by creating their own standards; rural, suburban, and urban districts; and from every region of the country. The study focuses primarily on food-service accounts. While the research team attempted to obtain information on other competitive food and beverage sales – PTA, boosters, athletics, and so on, identifying and reaching the stakeholders who had this information proved to exceed the scope and resources of the project.

On February 1, 2013, the USDA issued proposed federal standards governing all competitive foods and beverages (not just FMNVs) that are sold in schools participating in the federal child nutrition programs. The proposed rule, which was mandated by the *Healthy, Hunger-Free Kids Act of 2010*,<sup>7</sup> requires that competitive foods must: “(1) be either a fruit, a vegetable, a dairy product, a protein food, a “whole grain rich” grain product (50% or more whole grains by weight or have whole grains as the first ingredient), or a combination food that contains at least 1/4 cup of fruit or vegetable; or (2) contain 10% of the Daily Value (DV) of a nutrient cited as a public health concern in the 2010 Dietary Guidelines for Americans (DGA) (calcium, potassium, vitamin D, or fiber). Additionally, foods sold must meet a range of calorie and nutrient requirements,” (pp. 9531). For beverages, all schools may sell plain water, plain low fat milk, plain or flavored fat-free milk, and milk alternatives permitted by National School Lunch and School Breakfast Programs, and 100% fruit/vegetable juice.<sup>7</sup> Although the new federal standards likely will not be fully implemented for several years, school districts and schools nationwide will likely embark on adopting and implementing stronger competitive food and beverage standards in response. The case studies that follow may provide decision-makers with good ideas and worthwhile strategies to minimize negative financial impacts related to implementing strong competitive food policies. The case studies are intended to help districts better understand strategies and factors that make implementation of strong nutrition standards for competitive foods financially tenable in order to inspire and inform efforts in other districts and schools. Through this research, we have sought to identify strategies and practices that can aid district and school-level decision makers in successfully implementing stronger nutrition standards for competitive foods.



This was a qualitative, semi-structured interview study, designed to provide case studies of districts (and schools within those districts) that have successfully implemented strong competitive food standards while minimizing negative financial consequences.

Case studies are presented below for eight public school districts located in seven states and all four regions of the country (see Table 1). Across the districts, interviews were conducted with the district food service directors and principals and/or food service managers in nine middle schools and four high schools. The intent was to tell case studies for each district that included school level context and examples, rather than to tell specific strategies at the district and school levels.

**Table 1. Districts Included in the Study**

School District, State	# of Middle Schools	# of High Schools
Marshall County Schools, AL	2	0
Perry County School District #53, AL	1	0
New London School District, CT	1	1
Miami-Dade County Public Schools, FL	1	0
Boston Public Schools, MA	0	1
Jackson Public School District, MS	1	0
Bismarck 1 Public Schools, ND	2	1
Corvallis School District 509J, OR	1	1

### District Sample Selection

Districts were selected from the largest ongoing, nationwide evaluation of the congressionally-mandated school district wellness policies conducted by the Bridging the Gap Program at the University of Illinois at Chicago. The districts were identified through an analysis of the wellness policies in place as of the beginning of school year 2009-10.<sup>8</sup>

The Bridging the Gap sample included 622 public school districts nationwide for school year 2009-10. Wellness policies (including their competitive food standards) were evaluated using an adaptation of an ordinal wellness policy coding scheme originally created by Schwartz *et al*<sup>9</sup> and modified by Bridging the Gap staff.<sup>5</sup> For each item in the coding scheme, scores ranged from 0 (no policy/provision) to a 2 through 4 depending on the item of interest. A score of 1 equated to a weak policy that encouraged or suggested a standard (but did not require it) or to a requirement that did not apply at all times, in all locations,



or that were at the principal's discretion. A *strong* policy (scores ranging from 2 to 4) definitively required or banned the item or location of interest (e.g., ban on regular soda or ban on vending machines). For the 2009-10 school year, a total of 90 competitive food-related items were analyzed (15 competitive food items analyzed for each of six locations of sale: vending machines, school stores, à la carte lines in the cafeteria, in-school fundraisers, classroom parties, and evening events on school campus).

The goal was to identify up to nine districts (out of the 622 districts included in the Bridging the Gap sample) that had strong competitive food policies for inclusion in the case studies. To identify possible districts, "strength" scores were computed for the competitive food provisions included in each district's policy for each grade level of applicability – middle and high school. Scores represented strong standards for vending machines AND à la carte lines AND school stores in terms of specific and required limits on fats and sugars in foods, bans on regular soda, other sugar-sweetened beverages (SSBs) (other than sports drinks), and 2% or whole fat milk. All school districts that allowed the sale of any candy, energy drinks, soda, or other SSBs (not including sports drinks) were categorically excluded from the selection process.

In total, only 27 out of the 622 districts (4.3% of the nationally-representative sample) were identified as having strong competitive food policies applicable at the middle and/or high school levels.

### District-Level Screening and Final Sample Selection

Additional screening was then done using a structured telephone interview (see Appendix D for screening questionnaire) with food service directors in each of the 27 districts identified as having strong nutrition standards, to ensure: (1) the strong nutrition standards identified in the district policy had actually been implemented and (2) across all different types of food service accounts, the food service director did not perceive implementation of strong nutrition standards for competitive foods to have had a negative financial impact on the district. Through this process, 12 of the 27 districts were identified as qualifying for inclusion in these case studies. Among the other 15, three reported that they lost money, one reported not having any competitive food sales, and eleven declined either to complete the screening or to participate in the study.

In order to make a final selection of nine districts to include in our investigation, purposive sampling (also known as "qualitative sampling") was used; ultimately, districts were not selected through a random process, rather they were selected for distinctive characteristics. Specifically, of the 12 districts identified through our multi-step sampling and screening process, we purposively selected nine of these districts to reflect a range of district-level characteristics (i.e., free- and

reduced-price lunch (FRL) participation, student enrollment, racial/ethnic composition of the student enrollment, and urbanicity) and state-level characteristics (i.e., state obesity rates and region of the country).

Of the nine regionally and culturally diverse districts that were asked to participate in these case studies, only one district declined to participate.



Free and reduced-price lunch (FRL) was used as a proxy for socioeconomic status (SES). Among other considerations, a purposive selection process was used to maximize the range of SES represented in the sample. See Table 2.

While 9 of the 12 districts that met this study's inclusion criteria have at least half of their students participating in FRL, there was no oversampling based on SES. Rather, 9 of the 12 qualifying districts happened to be districts with high FRL participation rates.



### Case Study Locations



Marshall County Schools, AL • Perry County School District #53, AL • New London School District, CT  
Miami-Dade County Public Schools, FL • Boston Public Schools, MA • Jackson Public School District, MS  
Bismarck 1 Public Schools, ND • Corvallis School District 509J, OR



**Table 2. Characteristics of the Included Districts, School Year 2010-11 NCES CCD**

District Name	# Students (PK-12)	Race/Ethnicity of Districts' Students				Urbanicity	Region	State Obesity Ranking
		% White	% Black	% Hispanic	% FRL			
Marshall County Schools, AL	5,916	84%	1%	14%	67%	Rural	South	4
Perry County School District #53, AL	1,833	1%	99%	0%	97%	Rural	South	4
New London School District, CT	3,071	17%	29%	48%	85%	City	Northeast	42
Miami-Dade County Public Schools, FL	347,366	9%	25%	65%	70%	Suburb	South	32
Boston Public Schools, MA	56,037	13%	35%	41%	74%	City	Northeast	49
Jackson Public School District, MS	30,366	1%	96%	1%	88%	City	South	1
Bismarck 1 Public Schools, ND	11,017	88%	1%	0%	22%	City	Midwest	25
Corvallis School District 509J, OR	6,559	72%	1%	13%	35%	City	West	31

Note: District data was obtained from the National Center for Education Statistics' (NCES) Common Core of Data for school year 2010-11. State obesity ranking was obtained from the Trust for America's Health *F as in FAT, 2011* report.<sup>10</sup>

## School Selection

Purposive sampling was also used to identify specific schools in each district to include as a major focus of our investigation. Specifically, the nine middle schools and four high schools included in this study were identified through the recommendation of the district's food service director and based on the consent of the district's superintendent as well as the consent of the corresponding school(s) principal(s).

## Survey Instrument Development

The goal of the project was to interview officials at both the district and school levels who would be able to provide insight into competitive food and beverage policies and practices in the given district/school, as well as the financial impact of implementing stronger standards.

The semi-structured surveys were developed by the research team based on the review of the literature (Appendix A) and a discussion of data requirements with CDC and NNPHI staff and an external research advisory board of content experts.

The food service director and principal surveys followed a similar order, with the main difference being that the food service director survey asked about district-wide factors, while the principal survey was school specific. Questions focused on the following main topics:



- Financial impact of the nutrition standards at the district and/or school levels;
- Key factors that helped to facilitate implementation of the nutrition standards;
- Factors and barriers associated with maintaining/increasing district and/or school profit;
- Exclusive contracts;
- Pricing and promotion strategies to encourage purchasing of healthier food and beverage options; and
- Plans for changing the competitive food and/or beverage standards going forward.

An abbreviated version of the principal survey was used as a guide for conducting interviews with members of the PTA and all other stakeholders that were interviewed.

### **Pretesting Surveys: Methods for Cognitive Question Testing**

In addition to conducting a traditional field test, cognitive testing was also used to evaluate and further refine the surveys. Cognitive testing procedures adopted methods similar to those used at the National Center for Health Statistics (NCHS) and CDC.<sup>11</sup>

A total of three rounds of cognitive testing were conducted. The first two rounds of cognitive tests were conducted with a small number of content experts who possessed a level of education that is similar to a typical food service director or a principal. The third and final round of cognitive testing was conducted with one superintendent, one principal, and a food service staff member from Cook County School District 130 located in Blue Island, Illinois.

### **Data Collection: Staff Training and Telephone Interviews**

All interviews were conducted by telephone. Two research assistants, one a registered dietitian and doctoral candidate, the other a masters-level research assistant, conducted most of the telephone interviews. The study's project manager, who has more than 10 years of experience conducting and supervising large-scale survey research projects, also conducted interviews on an as-needed basis.

Prior to conducting interviews, research assistants received a minimum of 6 hours of training, including role playing and supervised interviewing. Training of interviewers was based on procedures for telephone interviewing developed by the Center for Research Design and Analysis at the University of Nevada, Reno.



## Data Coding, Analysis, and Interpretation

All interviews were audio-taped. Qualitative, semi-structured narratives were produced by creating a verbatim transcription of the interviews. Full transcripts (rather than chunks of text) were coded by the two research assistants.

Prior to coding any data, a coding guide was developed using an iterative process and relying upon varied sources, including the 'naïve' readings of transcripts, memos from the 'field,' a literature review, and expert recommendations. As the coding guide was developed, the researchers developed clusters and subclusters of codes where ideas appeared to develop a pattern or sequence.

Also, as a quality-control measure, prior to coding all transcripts, inter-rater reliability was assessed, whereby data from seven transcripts were independently coded and the codes were compared for agreement. Inconsistent codes were documented and the coding guide was revised based on problematic codes. Ultimately, substantial agreement was achieved with inter-rater reliability meeting or exceeding 80% for each independently coded transcript.

Once a satisfactory level of inter-rater agreement was obtained, coders divided the transcripts by district (*i.e.*, coding several respondents from the same district), to allow for a comprehensive understanding of each district.

## Protection of Human Subjects

All research protocols, semi-structured surveys, and consent scripts were reviewed and approved by the University of Illinois at Chicago's Institutional Research Board (IRB). (IRB Protocol # 2011-0350).

The protocols reviewed and approved by the IRB fully disclosed that respondents would be personally identified in the final report. Even though the risks associated with disclosing the identity of respondents was deemed to be minimal, as part of a rigorous consent process, special care was taken to ensure all respondents fully understood that their participation was not anonymous and that their participation would be disclosed in the final report.



### Financial Impact of Stronger Competitive Food and Beverage Standards

**Loss of profit was not the most frequently cited concern about changing nutrition standards.**

Profit is a big concern among principals and food service directors, but it was not their primary concern. The primary concern cited by food service directors was related to gaining the necessary buy in from students, staff and parents to support strengthening and implementing the stronger standards. Finding ways to engage the community (e.g., providing students with opportunities to taste test new food offerings, inviting a mix of school, parent, and community officials to participate in the policy revision process, etc.) was key to successful implementation of stronger standards. Financial concerns were the second-most cited issues. Principals gave similar responses with “students accepting new foods” being the biggest concern, and “profit loss” was the second most cited concern.

**For the districts and schools in the study, “doing the right thing” was also perceived as more important than profit.**

While in many cases the genesis of stronger nutrition standards for competitive foods was an external mandate such as a change in state law, those interviewed for this study embraced the changes and maintaining profits took a back seat to “doing the right thing” for the health of children they served. Most of those interviewed took the challenge to be one of successfully getting the children to eat healthier foods and even to improve children's long-term nutritional choices, rather than a financial challenge – but this focus on encouraging children to eat better also had the effect of minimizing the financial disruption of the change.

**Most respondents have a positive outlook on the future profits for competitive foods.**

Food service directors and principals were asked to forecast what they thought profits for competitive foods would be like in the current year compared to the prior school year. Most respondents (6 of 8 food service directors and 6 of 13 principals) thought profits would remain at similar levels. One food service director (of 8) and one principal (of 13) forecasted profits would be more than the prior year. Only one food service director and two principals projected that profits would be less. Consistent with other questions regarding profits, a significant proportion of principals commented they could not even speculate about what future profits might be like because they did not know enough about the topic to answer.

*“There was so much value in making the change that it was really a no brainer.”*  
—Russ Riehl, Principal, Simle Middle School, Bismarck 1 Public Schools, ND



### **Strengthening nutrition standards for competitive foods are associated with increased participation in the USDA reimbursable meal program.**

Consistent with the literature, 6 of 8 food service directors indicated that profits associated with reimbursable school meals increased once stronger competitive food and beverage standards were implemented.<sup>13-16</sup> Two of 8 responded that profits remained the same. Districts reported improving the nutritional value and appeal of the school lunch program at the same time that they implemented stronger competitive food standards, resulting in increased participation in the reimbursable school meal program.<sup>a</sup>

*“Kids are participating [more in the meal program], so we have seen our overall revenue increase, year after year. And because of that, I think, the competitive foods and à la carte foods have taken a back seat – we aren’t promoting the competitive foods as much. It’s not a focus. So no one’s losing any sleep, or saying ‘okay let’s work on competitive foods’ or ‘what’s the price?’”*

—Shamil Mohammed, Interim Food Service Director, Boston Public Schools, MA

### **Strong competitive food and beverage standards do not have a more adverse financial impact in low-income school districts than higher income districts.**

While many in the school community worry that stronger competitive food and beverage standards will disparately and negatively impact low-income districts, this was not the case in the districts studied here. As mentioned above, many of the districts found that reimbursable school meal program participation increased. Several respondents from low-income districts suggested that when most students participate in the free lunch program, the school does not rely on competitive food sales. Thus, a drop in competitive food sales is unlikely to have a significant impact on the financial status of districts with high rates of free- and reduced-price lunch participation.

*“At my middle school, we lost a little bit of things [competitive food sales]...my financial well-being isn’t based on [competitive food] sales. It’s sort of very small dollars for me...I’d be better if everybody takes a meal. And everybody is taking a meal. So we grew our participation to...so we’re like 90 percent participation. But when I first got here, we were...some of them were under 70 percent. So for me, for the [competitive food] sales, it’s a minute number.”*

— Gail Sharry, Food Service Director, New London Schools, CT (New London Schools had an 85% free- and reduced-price lunch participation rate in school year 2010-11)



**Schools experienced declines in competitive food profits. However, schools report that over time, profits rebounded, and when measured across all food service accounts, profits remained the same or increased.**

Implementation of stronger nutrition standards resulted in an initial “dip” in competitive foods profits (but, as discussed below, this dip was offset by revenue from other sources). Only one food service director reported that competitive food profits remained at similar levels during the first six months after stronger nutrition standards were implemented. The remaining 7 (of 8) food service directors reported a decrease in competitive foods profit during the first six months following the implementation of stronger nutrition standards. Of the 7 reporting that profits initially declined, one reported that they declined by 5%, 2 reported that they declined by more than 20%, and the remaining 4 reported declines of between 5% and 20%.

In spite of an initial “implementation dip,” all but one food service director reported that competitive food profits were rebounding substantially within two years or less.

*“There’s that period of time when there’s a little bit of grumbling, you know that people are resistant to that change. The way it always was. I think when people get used to it, I don’t think it takes very long...and it just seems like the norm.”*

—Joan Knoll, District Dietitian, Bismarck 1 Public Schools, ND

Even though competitive food profits rebounded, all but one food service director indicated that current profits related to competitive food sales are less than what they were prior to implementation – with the remaining food service director responding that profits remained the same. However, food service directors did not typically attribute the ongoing lower competitive foods profits to stronger nutrition standards; rather, they typically cited issues related to the 2008 recession and resultant substantial increases in participation in the free- and reduced-price lunch program.

In spite of a perceived decline in competitive food profits, none of the food service directors reported significant on-going financial concerns. In fact, when considering all food service accounts, as opposed to just competitive food revenues, profits either increased or stayed the same after implementation of stronger nutrition standards, with increases to food services accounts largely attributed to increased participation in the school meal program.

<sup>a</sup>When fewer competitive foods are available to students, there is a shift in student purchasing behavior away from individual snack purchasing toward complete meals. Completely eliminating competitive foods tends to result in the greatest school meal participation. Schools participating in the National School Lunch Program are eligible to receive federal (USDA) reimbursement through their state education agency. Reimbursements are provided in three categories “paid,” “reduced-price” and “free,” and depend on a number of factors, including the number of lunches served in the various categories. For the 2012/2013 school year, reimbursements ranged from \$0.27 to \$3.09 in the contiguous United States. Student eligibility for reduced-price and free-lunch is based on income.



### **The financial impact of stronger competitive food and beverage standards on food and beverage sales associated with extracurricular activities is mixed.**

Respondents were also asked about the financial impact of the change in standards on food and beverage sales associated with extracurricular activities. No food service directors or principals indicated that food and beverage sales associated with extracurricular activity-related fundraising (such as by clubs and band) increased after implementing the new standards. Declines in sales were reported by 1 of 8 food service directors and 3 of 13 principals. Most (5 of 8) food service directors and 5 of 13 principals were unable to answer. Some respondents commented that before- and after-school activities do not have to adhere to the nutrition policy and therefore were not affected by the change.

*“Now we just figure out a different way to raise money – as opposed to utilizing food that is unhealthy. If anything [the impact has been that] it brought awareness. I don’t know if I’d put a dollar value to it. I don’t like to associate the awareness of eating healthy with ‘oh did we lose money?’”*

—Caren Walker-Gregory, Headmaster, Kennedy Academy for Health Careers, Boston Public Schools, MA

### **Likewise, the financial impact of stronger competitive food and beverage standards on parent teacher association/organization activities is mixed.**

Similarly, food service directors and principals consistently answered that parent teacher association (PTA) food and beverage sales either decreased or remained the same in the long-term following implementation. Three of 8 food service directors indicated that they decreased, with 2 of 8 responding that sales remained the same. Among the principals, 3 of 13 indicated sales declined for PTA food and beverage sales, while 4 reported sales stayed the same. The other food service directors and principals did not know.

Some of the decreases in food-based fundraising were seen by respondents as very positive changes. For example, in Miami-Dade County Public Schools, respondents shared that the PTA, following their district’s lead, decided it would no longer raise money by selling less nutritious foods and beverages to children. Rather, the PTA switched to non-food fundraising efforts.

*[The key to success is] making sure that you put in place ways to earn fundraising revenue that is needed and not just taking away the opportunity without having something else there to replace it.”*

—Penny Parham, Food Service Director, Miami-Dade County Public Schools, FL



### Challenges Faced

**Finding food and beverage items that complied with the new standards and were both affordable and profitable was a key challenge that many schools faced.**

Seven of 13 food service directors reported having difficulty finding foods and beverages that met the stronger nutrition standards for competitive foods and beverages in the early stages of implementation. However, they also reported that as time went on, vendors responded to the demand and more and more appealing items became available. As stronger standards begin to be implemented nationwide, the research team anticipates this trend will continue.

*“Definitely. [Finding] products that are affordable. [Finding] affordable products that meet the standards. That is hard. That’s a challenge. That’s where the Alliance has been really helpful because they have like a calculator and they have products already identified. And industry has come a long way. It was not nearly as easy years back. They’ve made it a little easier.”*

—Penny Parham, Food Service Director, Miami-Dade County Public Schools, FL

**A variety of other challenges were identified. However, they were not insurmountable.**

Ten of the 13 principals reported ongoing barriers to maintaining profits now that some time has passed. Such barriers ranged from time for students to adjust to taste, production and food-related challenges, the economy, and open-campus policies. The principals reported these barriers to maintaining competitive foods profits were overcome with time and/or using some of the strategies identified in the section that follows.

### Facilitators of Success

**A wide variety of different strategies were used to help overcome barriers to implementing stronger nutrition standards and maintaining profits.**

Although there were many overarching themes that ran throughout each of the eight case studies that follow, our research did not identify a “one-size-fits-all” approach to overcoming barriers to implementation or maintaining competitive foods profits. The most common implementation strategies mentioned by food service directors were communication about new standards, marketing, and education. Adjusting food cost, modeling healthy behavior, and community engagement were also cited as strategies for addressing initial concerns. More detail is presented in the next section providing an overview of strategies reported by the districts and schools in the study.

*“[U]nderstand[ing] what kids like to eat...always seeking new ways to give kids opportunities to eat healthy...educating the cafeteria staff...changing how they’re interacting with the students...variety...an intentional look at menu choices so that the kids are never bored and there’s always something new.”*

—Alison Ryan, Principal, Bennie Dover Middle School, New London Public Schools, CT

*[Improved] packaging and product offering has increased the selectability for the students.”*

—Andrew Morton, Food Service Director, Marshall County Schools, AL

**In many districts and schools, strong leadership was cited as a key to success.**

Many of those interviewed identified particular people or groups of stakeholders that took a leadership role in developing and implementing stronger competitive food and beverage standards. Very often, specific individuals were pointed to as being effective champions. In addition, leaders were cited as being passionate about students’ health. Food service directors, superintendents, school boards, and principals were all cited as being important leaders who helped to ensure the success of stronger standards.

*Almost without exception, our board members really do take a forward look at childhood obesity and creating a healthy environment and supporting ... the physical health to help the kids achieve the best they can. They really do.*

—Penny Parham, Food Service Director, Miami-Dade County Public Schools, FL

### Process of Change

**For most districts, a change in nutrition policy was preceded by policy changes at the state or Federal levels.**

“Changes in state law or regulations” was the most common response from principals and food service directors as a primary motivator for transitioning to stronger nutrition standards.

*“[My superintendent] does not want his school system to be lacking of meeting state objectives. So we had no other choice. When you have a mandate, you just jump on board and get it done.”*

—Joyce Banks, Food Service Director, Perry County School District #53, AL

Six of 8 food service directors said that their district started implementation six or more years ago. These responses are consistent with the time period when the USDA required school districts receiving federal funds for meals to create and implement a wellness policy. School districts were required to have a wellness

policy in place by the 2006-07 school year, roughly six years prior to these interviews. Although no food service directors specifically mentioned this as a precursor to implementation, it may be inferred that it is one of the regulatory changes cited as a factor in the timing of standards changes, and that the resultant wellness policy was also a factor.

### **Exclusive contracts for competitive foods and beverages appeared to be on the decline in the districts and schools included in this study.**

Four of 8 food service directors reported that their district had exclusive contracts prior to implementing stronger nutrition standards. In contrast, only 2 of 8 food service directors reported that their districts still have an exclusive contract following implementation of stronger nutrition standards for competitive foods and beverages.

Principals gave consistent responses. No schools reported signing an exclusive competitive food or beverage contract following implementation.

### **Most schools implemented changes incrementally.**

Most commonly, districts implemented standards incrementally. Six of 8 food service directors indicated that their district implemented the nutrition policy incrementally, typically over a two to three year period. Only 1 of the 8 food service directors reported their district implemented changes all at once and the remaining food service director was a recent hire so could not confirm the implementation timeline.

*“[W]e take it year by year. We see what the needs are and we move from that point.”*

—Mary Hill, Food Service Director, Jackson Public School District, MS

Interviewees also perceived that implementing changes incrementally and at the beginning of a new school year (rather than a sudden shift during the middle of the school year) were effective strategies to provide time for students' tastes to adapt and reduce pushback.

*“[I]t's easier, to me, when you start out slow, instead of trying, well what we call 'cold turkey'.”*

—Deb Murray, Cafeteria Manager, Douglas Middle School, Marshall County Schools, AL



### **Adoption of policy changes and enforcement of new policies usually required support from the top.**

Respondents frequently cited “forward thinking” school boards, superintendents and other district staff, and principals as important players who helped enact and implement new policies. Among all respondents, principals and food service directors were most commonly cited as the people who were essential for making sure the policy was actually implemented or followed. Particularly interesting was that nearly half of the principals interviewed felt accountable for ensuring implementation of the standards, identifying themselves among those most involved in implementation.

*“Most certainly the building principals. You know, because that’s where the rubber hits the road. So you’ve got to have the folks in those buildings making sure that those policies are being followed.”*

—Doug Joersz, Food Service Director, Bismarck 1 Public Schools, ND

*[Our food service manager]...she’s a little bit of a super woman. [T]here is variety and there is an intentional look at our menu choices so that the kids are never bored and there is always something new.*

—Alison Ryan, Principal, Bennie Dover Middle School, New London Public Schools, CT

Four of 13 principals also cited cafeteria managers as people with a key role in implementation. Of course, other champions, including active wellness committees, teachers (especially P.E. teachers), students, and even local physicians were cited as important stakeholders that helped build support for and assisted with transitioning to stronger nutrition standards.

### **Looking to the Future**

#### **There are no known plans to weaken or roll back the stronger nutrition standards in the districts or schools studied.**

Not a single respondent cited any attempt to weaken or roll back their schools’ stronger nutrition standards. Six of 8 food service directors and 9 of 13 principals said there are no plans to change the current competitive foods policy. One food service director also noted that the district was planning to change the current overall wellness policy, by expanding its reach to staff meals served during the school day.

*“No changes...I think we are on a good trajectory now.”*

—Eric Beasley, Principal, Linus Pauling Middle School, Corvallis School District 509J



Each respondent discussed a wide variety of implementation strategies. The section that follows enumerates a broad range of strategies – identified through our case studies and supported by a review of the literature – that can be used to help minimize the financial impact of implementing stronger competitive food and beverage nutrition standards. Given the qualitative nature of this study, the researchers were not able to evaluate the relative effectiveness of the various strategies listed below and they are therefore not presented in any rank order; readers should not infer from the order that some are better strategies than others. Readers should review these strategies and consider their relevance to the culture and capacities of their own districts and schools, and consider using those approaches that seem to be the best fit.

### Engage Students

Student engagement is a common, inexpensive strategy utilized by many districts and schools in our study. Many schools have engaged students through taste testing sessions to gauge acceptance of new products and solicit feedback for successful menu planning.

In New London, Connecticut, Principal Alison Ryan noted that student feedback has been crucial in their changes. According to Principal Ryan, students feel when giving feedback that people are listening and care about their opinions which is empowering when choosing a lunch.

In Boston, Massachusetts, students have been a part of the process as well, through student-led marketing campaigns to promote healthier options in the cafeteria. Making this into a contest, an element of excitement is added to eating healthy while also educating students on the importance of nutrition and healthy living. Involving students in this way puts students in charge of sending the message to their peers that eating healthy is the thing to do.

Moreover, engaging students in the process can generate student buy in making them feel like they are a part of the policy change process rather than just the unfortunate recipients of the policy.

### Improve the School Meal Program

Several districts shared that they worked on the quality and appeal of the school meal program at the same time as they improved the nutritional value of their competitive food offerings. This helped with meal participation rates, and offsetting reductions in competitive foods purchase with increases in school meal purchases. At the Perry County Public Schools in Alabama, the school meal program offers a variety of choices for students, including a salad bar, sandwich,



or hot entrée. In districts with higher income students, like Corvallis School District 509J in Oregon, food service departments raised prices for the full-price meal to support healthier and more appealing options to maintain profits. Several schools added appealing fresh salad/fruit/vegetable bars to their meal programs to encourage students to consume those foods.

### Increase Participation in the School Meal Program

Districts and schools with a high proportion of low-income students were also able to support profits across food service accounts by increasing participation in the reimbursable school meal program. In addition to improving the quality and appeal of the meal program, some schools made a concerted effort to enroll more students in the program. At West Miami Middle School, a community involvement specialist reaches out to parents to inform them about the school meal program and help them enroll.

### Collaborate with Vendors

Corvallis School District 509J in Oregon worked closely with vendors to find creative ways to sell healthier food and beverage items to students, including efforts to use attractive packaging, the most current products, and keeping a variety of options available. Food Service Director Sharon Gibson said, *“We go to a lot of food shows to find out what’s new. New products always sell right off the bat.”*

### Expand Nutrition Education

Nutrition education was regarded as one of the most important aspects of leveraging other parts of the school day to change the culture of the cafeteria by many of our study’s respondents. In Bismarck 1, in North Dakota, nutrition education was incorporated into afterschool athletics programs to reinforce how healthy eating throughout the day affects their game time performance. Additionally, the district added nutrition and health classes to the curriculum as healthier competitive foods options were introduced in the cafeteria.

In Boston, Massachusetts, a curriculum incorporating nutrition education in subjects like English and math was developed to help teachers talk about nutrition as a component of core subjects. As high demands are placed on teachers to help their students achieve, this method of teaching about nutrition uses time effectively.



### Make Cafeterias More Appealing

Some schools determined that they could enhance students' dining experience, and therefore their acceptance and engagement, with the more nutritious offerings by reconfiguring or redesigning cafeterias. Bismarck 1 district, in North Dakota, sought to make their cafeterias more like a modern restaurant that would appeal to students, making them a place where students' go to recharge during the day, and in the process obtain a healthy meal. Other school districts talked about how they design lunch lines to promote selection of healthier foods, including ideas like putting salad bars at the beginning of the food service line.

### Encourage Staff to Lead by Example

School staff can be a critical element in a school's transition to healthier foods. Bismarck 1 district in North Dakota picked up on this as they encouraged teachers and school staff to model healthy behaviors during the school day. One principal noted that it was important for students to see teachers and staff members participating because it reinforces the message students are receiving about healthy eating.

Moreover, teachers and staff modeling healthy eating habits is a way to expose students to foods they may be less familiar with, noted Kristin Driscoll, the Health Engagement Coordinator at Edward M. Kennedy High School in Boston, Massachusetts. Exposure to unfamiliar, new foods can be an important part of getting students to eat healthier by lessening any food anxieties that may be associated with it. Health Engagement Coordinator Driscoll mentioned that in her school she will often talk with students about healthy foods she brings for lunch to increase their exposure to new options.

### Timing Matters

Major changes to competitive foods or school meals are likely to be better received at the beginning of a brand new school year; in contrast, opposition to change is likely to be at its peak if sudden changes are implemented during the middle of a term.

### Use an Incremental Approach

Almost every district we spoke with followed an incremental plan when transitioning to stronger competitive food standards. With incremental changes, students are allowed to adapt to new foods over time. Student acceptance of new foods was a primary concern for many schools in their transition, but with small changes made over a few years, students are given time for their tastes to adjust. One



way schools in our study implemented changes gradually was through phasing in less popular whole grain breads while removing more popular white breads over time. Allowing students the time to adapt to things like whole grain breads facilitate a smoother transition and can reduce pushback from students along the way. According to Andrew Morton, Marshall County Schools (Alabama) Child Nutrition Director, students are adaptable and noted that in his district they adapted well when the cafeteria's selection changed.

### **Involve Parents**

Involving parents in the process of change helps districts and schools educate about nutrition beyond the school day. Having healthy options at home helps the changes at school succeed. In Boston, the district has included education for parents on ways they can cook inexpensive, quick, healthy meals at home into its Parent University curriculum. Through this program, the Wellness Department in Boston School District in Massachusetts is able to reach out to parents and teach them that eating healthy does not have to be difficult or expensive.

In Perry County, Alabama, the school district has reached out to families in order to get the whole family making healthy nutrition and healthy choices. Walk-to-school events bring families together around the topic of health and nutrition in a fun, supportive way that ends with a healthy breakfast for all participants. Furthermore, the district opens their gym facilities to the public so that all members of the community have access to a place to exercise. Incorporating families and the greater community in Perry County in these ways, the district is able to shape a student's complete environment beyond the school day.

### **Marketing: Get the Message Out**

Marketing was a strategy districts and schools used to get the message out on healthy eating. A school in Boston used a student-led marketing campaign to promote healthy eating on campus. Cafeteria managers mentioned the use of bulletin boards in their cafeterias as a way to promote healthy menu items. In Miami-Dade County, a cafeteria manager said that she posts messages to students about special items throughout the week and the health benefits of those items. Similarly, in Bismarck 1, District Dietitian Joan Knoll said she created displays for the cafeterias focused on the health benefits of the lunches being served. Simple techniques like these help districts and schools promote healthy options in an inexpensive way.



### Utilize Outside Resources

Farm to school programs were some of the most commonly cited outside resources by districts and schools. Partnerships like this benefit both the students and the community by using local, in-season produce. In Corvallis School District, Food Service Director Sharon Gibson said that the farm to school program is exciting for the town because students are eating produce grown by neighbors or friends. Additionally, Food Service Director Gibson noted the farm to school program gets students interested in creating school gardens so they can grow their own fruits and vegetables.

In Boston, the district has partnered with community centers in transitioning their vending machines and snack options so they mirror options available to students during the school day. A district employee mentioned that many students attend community centers after school, making these centers appropriate partners. Offering healthy options at community centers further reinforces the message sent to students on the importance of healthy eating all day.

### Federal and State Policies Matter

Districts and schools consistently reported that implementation of stronger standards was easier when predicated by concomitant changes or mandates at the state or federal level (the latter focused on the wellness policy mandate). Given the challenges that food service directors initially reported with finding vendors with items that met their standards and their observation that over time vendors were able to respond with more suitable products, the research team theorizes that food and beverage-maker adaptation of packaging, sizing and formulations will accelerate as the Healthy, Hunger-Free Kids Act standards are implemented nationwide and more uniformity in standards across states and districts is achieved.

In light of the recent proposed federal competitive food and beverage regulations issued by the USDA, the experiences, lessons, and strategies illuminated by the interviews with district and school officials may be especially helpful not just to federal officials, but also to state, district, and school officials charged with competitive food policy implementation responsibilities.

“In the districts and schools interviewed for this study, concerns about profit took a backseat to a moral imperative to “doing the right thing.”

Most of the schools and districts in the sample did not proactively engage in strategic planning related to ensuring that profit was maintained, but schools concerned about this may want to engage in more intentional planning as they move to implement new USDA standards. Retrospectively, the participating districts have been able to provide some insight into key factors and strategies that can help maintain profit.

Schools should anticipate an initial drop in competitive foods profits that may be offset by increased reimbursable school meal profit, and can anticipate that most of the competitive food profits are likely to rebound within two years. By implementing strategies at the front end, schools and districts may be able to minimize financial disruption, facilitate student adaptation, and concurrently improve nutrition by encouraging students to consume the healthier offerings.

CDC has developed a strategic framework for implementing changes like this that may be helpful for districts working to achieve the dual goals of improving nutrition while maintaining profit. This framework, MAPPS (Media, Access, Point of Decision, Pricing, and Support),<sup>17</sup> encompasses and can help organize many of the policy decisions and implementation strategies reported by districts and schools in the case studies that follow. The components of a successful MAPPS strategy as illuminated by the districts and schools in this study can include:

- **Media:** Communicate about the standards ahead of change; promote healthier foods and healthier habits through signage and websites; engage the school community, students, teachers, and parents in the process of change.
- **Access:** Restrict access to vending machines at meal times; minimize access, if possible, to less nutritious foods and beverages off campus during the school day (closed campus); provide a range of rotating, appealing healthy choices to students; utilize emerging tools and resources to identify products that meet the standards and work with vendors as standards are being developed to ensure access to a range of appealing products that can be incorporated into new menus.



- *Point of Decision:* Implement marketing efforts to promote new, healthier offerings; provide information on the comparative healthiness of options; market only healthy items on vending machines.
- *Pricing:* Consider utilizing pricing strategies that can compete with less nutritious foods and beverages off-campus and provide a financial incentive for selecting healthy options when on campus.
- *Support:* Engage teachers and staff in modeling healthier behaviors; implement a holistic approach that incorporates nutrition education into the curriculum and athletics; provide information on healthier options in off-campus food establishments.

As the new USDA competitive food and beverage standards are rolled out and begin to be implemented, school nutrition advocates and leaders should make concerted efforts to communicate the strategies identified in this study to help districts that are concerned about profit translate them into more concrete strategic plans.

For schools and districts where concern about profit is paramount, technical assistance with strategic planning and implementation of strategies to maintain profit will be especially helpful. Finally, finding products that meet standards was reported as a significant on-going concern and underscores the need for tools and resources for food service directors working to implement higher standards. In addition, this study suggests that as federal nutrition standards are implemented, additional research into which strategies for maintaining profits are most effective may be warranted.

# Marshall County Schools



<b>District Name</b>	Marshall County Schools
<b>State</b>	Alabama
<b>Grades in District (NCES)</b>	Pre-Kindergarten – 12
<b># of Schools in District (NCES)</b>	15
<b>Superintendent</b>	Tim Nabors, MA
<b>Food Service Director</b>	Andrew Morton, MS
<b>District Demographics (NCES)</b>	
Total # Students	5,916
% White Students	84%
% Black Students	1%
% Hispanic Students	14%
% students participating in free-and/or reduced price lunch	67%
<b>Locale (NCES)</b>	Rural
<b>Census Region</b>	South
<b>State Adult Obesity Ranking (as reported in <i>F and in Fat, 2011</i>)<sup>10</sup></b>	4
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle school only Wellness policy available from district
<b>Persons Interviewed for Case Study</b>	Andrew Morton, MS—Food Service Director Keith Stansfield—Principal, KDS DAR Middle School Lou Anne Barnes—Cafeteria Manager, KDS DAR Middle School Larry Wilson—Principal, Douglas Middle School Deb Murray—Cafeteria Manager, Douglas Middle School

### Key Findings:

Marshall County Schools initially experienced a decline in profits, and perceptions differ regarding the extent of the rebound. The district currently reports profits across all food service accounts due to increasing participation in the reimbursable school meal programs, while principals reported experiencing a small decline. However, the health benefits for the children have outweighed any major concerns about competitive food profits at the school level.

A significant initial barrier to implementing stronger competitive food and beverage standards was finding the right product mix that met them, but over time, this problem has been ameliorated as vendors responded to their needs. A key strategy used by the district to maintain sales has been a focus on variety and choice for students for



both competitive foods and the reimbursable school lunch program. The district has taken an incremental approach to implementing stronger nutrition standards.

## Competitive Foods and Beverages Sold

	NO	YES
Regular soft drinks such as Coke/Pepsi	✓	
Fruit-based drinks that are composed of less than 50% fruit juice	✓	
Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C	✓	
Sweetened teas, such as Snapple	✓	
Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)		✓
Energy drinks like Red Bull or Monster	✓	
Whole fat milk	✓	
Candy (for example, chocolate bars or sugar-coated jelly candies)	✓	
Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)	✓	
Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)	✓	
Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?	Self-operating	

## Food Service Profits

The district's Child Nutrition Services reported that district-level overall profits post-implementation are similar to profit levels prior to implementing strong competitive food and beverage standards. Increased participation rates in their breakfast and lunch programs have been a key factor in maintaining profits. Responses varied between the district and school levels regarding the changes in profit over time for competitive food and beverage sales. Andrew Morton, Child Nutrition Supervisor, noted that initially following policy implementation there was a slight decline in competitive food and beverage profits; however, in about six months profits returned to where they were prior to implementation. Schools reported drops in profits associated with competitive foods, but in looking at these decreases, Principal Larry Wilson of Douglas Middle School responded that he thought changes were, "overall for the good of the kids."

Perhaps more than the changes in standards, the downturn in the economy was a significant factor in the changes in competitive food and beverage purchases, according to most respondents. With more families struggling financially, students



had less money to spend on competitive foods and beverages, resulting in the decline of those products. The economy was also cited as a factor in an increase in school meal participation rates as more students became eligible for free- and reduced-price meals in recent years. For example, Douglas Middle School Cafeteria Manager Deb Murray said that the high level of students receiving free- and reduced-price meals, *“has been a big influence on our numbers,”* an increase in participation she attributes to, *“the economy.”* Thus, while the economy may have negatively impacted profits specific to competitive foods and beverages, overall the impact across all food service accounts was positive because of the increase in reimbursement funds from free- and reduced-price meals.

### Fundraising

Speaking to the fundraising efforts of extracurricular student organizations, both principals interviewed reported a decline in profits associated with food and beverage sales for extracurricular groups on their campus. Removing some of the pressure surrounding fundraising efforts, Principal Wilson (Douglas Middle School) noted that, *“I just don’t feel like we should be sending our kids out selling things to try to make up the money for things.”*

For parent-teacher groups, the principals from two different middle schools in the district reported differing impacts on profits. Principal Wilson (Douglas) reported a decline in their profits while Principal Stanfield (KDS DAR) reported profits staying about the same. Neither respondent reported serious challenges faced by extracurricular or parent-teacher groups as a result of fundraising limitations or profit declines.

### Implementation Plan: Development, Barriers, and Facilitators

#### *Development/Implementation*

Marshall County Schools began implementing their stronger competitive food and beverage standards roughly six years ago. Standards were implemented incrementally over a few years as a part of the district’s wellness policy that was created at the same time. The committee in charge of developing the district wellness policy, which included the previous nutrition supervisor, superintendent, administrators and school faculty, opted to use the basic framework and Alabama state guidelines for competitive food and beverage standards, which allowed them to focus their energy on developing a comprehensive wellness policy.



## Barriers

Though judged a success, Marshall County Schools has experienced some barriers to implementation. Initially, product availability was a critical concern for the district's Child Nutrition Department. As new standards came into effect, vendors were not fully prepared to provide products that met them. Food Service Director Morton commented that, *"The first year, there was some difficulty with getting enough variety,"* when it came to procuring foods and beverages that met nutrition standards. Giving students more choices was perceived by respondents as an important strategy for transitioning students to healthier options, but in the first years the limited selection vendors offered made this strategy difficult to implement. With time, vendors have been able to increase healthy food and beverage options for the district. More healthy options, Morton says, allows them to, *"give them [students] some flavor and some changes throughout the year."*

A continuing barrier is what students eat while not at school. Outside of school, many students are still eating less healthy meals which creates a challenge when serving them healthier items during the school day.

While waiting for students' tastes to adjust, Food Service Director Morton has a positive outlook saying, *"Students are very adaptable to changes in environment and the ability of them to adapt to new guidelines is fairly good."* He added that the Department has observed an increase in expenditures on fruits and vegetables because students are selecting them more.

## Strategies

Numerous strategies and people facilitated implementation of strong competitive food and beverage standards in the Marshall County Schools. Creating and maintaining student interest in the foods served is a key factor in their success.

Giving the students options to choose from, consistently rotating available items and monitoring the foods students respond to best are implementation strategies that the



The biggest thing we gotta do and [have] been trying to do is trying to vary some of the products that they have.

-Principal Larry Willson (Douglas)



district uses to keep students interested. Principal Wilson (Douglas) emphasized that because students enjoy having different options throughout the year, *"The biggest thing we gotta do and [have] been trying to do is trying to vary some of the products that they have."* Furthermore, the district and schools have utilized this concept for the school meal program as well by letting students choose between a salad bar, sandwiches, and different hot meal options every day.



Taking an incremental approach to implementation has been an effective way to provide time for students' tastes to adapt. Douglas Middle School Cafeteria Manager Murray said that *"it's easier, to me, when you start out slow, instead of trying, well what we call 'cold turkey.'"* Observing how students have accepted changes, cafeteria manager for KDS DAR Middle School Lou Ann Barnes agreed that had standards changed overnight, students would not have been very accepting.

Vendors have also been instrumental in the implementation process. A challenge that the Marshall County Schools faced was the students' negative responses to smaller portion sizes, especially for beverages. One way vendors worked to overcome this challenge was through redesigning the packaging. Acknowledging the work of beverage vendors, Morton said, *"Manufacturers creatively kept the packaging as close to the size with just less components inside. And that little bit of marketing ploy helped overcome that to a large degree."* The district has fostered a strong relationship with vendors by communicating nutrition standards to assist them as they stock campus vending machines.

### Vending Contracts

Exclusive vending contracts in the district are negotiated at the school level, placing principals in charge of implementing strong nutrition standards for vending. Limited by a soft drink ban and other changes in nutrition standards, Principal Wilson (Douglas) presumed that the vending companies have most likely seen a decline in profits. Principal Wilson reported, however, that their relationship with the vending company has not changed since stronger nutrition standards went into effect. Douglas Middle School also restricts the operating times for vending machines. During breakfast and lunch, vending machines are shut off or locked to prevent students from purchasing competitive foods and beverages during meal times.

### Marketing and Education

Marketing methods and nutrition education are other strategies that the Marshall County School District has employed to promote healthier competitive food and beverage options and the district wellness policy.

An increase in nutrition education has been a helpful tool to get students thinking about the food they eat and their health. Along with health classes, students are educated on the benefits of eating healthy as they participate in athletics programs offered after school. According to Food Service Director Morton, *"There's been some focus there on better nutrition for the athletes that participate in*



“It’s easier, to me, when you start out slow, instead of trying, well what we call ‘cold turkey’.

-Cafeteria Manager Deb Murray



*school athletics, and that has assisted a lot as well.”* Student athletes then can take this information learned during practice and apply it as they choose their lunches.

The district and school staff did not report extensive marketing efforts for the more nutritious foods and beverages, because that was all that was on offer, but Food Service Director Morton did share that advertisements for less nutritious beverages were taken off vending machines and replaced with images of water. Food Service Director Morton also noted that even outside of school, he is seeing more marketing of health conscious products – a positive development that he says helps reinforce the district’s efforts because students are *“seeing that as an accepted lifestyle from the outside world so that has assisted a lot in transitioning from a less healthy beverage to a more healthy one.”*

## The Future

Marshall County Schools have no specific plans to revise their competitive food and beverage policy in the next year, but Food Service Director Morton indicated that the district may revisit it in a year to a year and a half to make any needed adjustments. Focusing on the present, the district believes its experience is positive, and expects to continue progress with current implementation strategies. Looking ahead as the district continues offering new healthy options, Principal Stanfield (KDS DAR ) remarked, *“I think it’s something the kids can deal with and it’s gonna get much better over time as they get used to seeing this and get used to eating this way.”*

**Perry County  
School District #53**



<b>District Name</b>	Perry County School District #53
<b>State</b>	Alabama
<b>Grades in District (NCES)</b>	Kindergarten – 12
<b># of Schools in District (NCES)</b>	5
<b>Superintendent</b>	John Heard
<b>Food Service Director</b>	Joyce Banks
<b>District Demographics (NCES)</b>	
Total # Students	1,833
% White Students	1%
% Black Students	99%
% Hispanic Students	0%
% students participating in free-and/or reduced price lunch	97%
<b>Locale (NCES)</b>	Rural
<b>Census Region</b>	South
<b>State Adult Obesity Ranking (as reported in <i>F as in Fat</i>, 2011)<sup>10</sup></b>	4
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle and high school Wellness policy available from district
<b>Persons Interviewed for Case Study</b>	Joyce Banks—Food Service Director Leslie Ford-Turner—Principal, Robert C. Hatch High School

### Key Findings:

Perry County School District #53 experienced a decline in profits from competitive foods and beverages, but stronger standards resulted in more participation in the USDA meal program. The ongoing, nearly universal participation in the free- and reduced-price meal program has made the impact of this decline, across all food service accounts, negligible.

The competitive food and beverage standards extend to school celebrations, and initial pushback from parents has subsided. The district has focused on engaging the community, especially families, in its nutrition and health efforts. Each school in the Perry County system has been named a Silver Medal winner by the Alliance for a Healthier Generation as part of its Healthy Schools Program.



### Competitive Foods and Beverages Sold

	NO	YES
Regular soft drinks such as Coke/Pepsi	✓	
Fruit-based drinks that are composed of less than 50% fruit juice	✓	
Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C	✓	
Sweetened teas, such as Snapple	✓	
Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)	✓	
Energy drinks like Red Bull or Monster	✓	
Whole fat milk	✓	
Candy (for example, chocolate bars or sugar-coated jelly candies)	✓	
Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)	✓	
Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)	✓	
Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?	Self-operating	

### Food Service Profits

Both respondents perceived that profits from competitive foods and beverages declined following the implementation of strong standards. Child Nutrition Director Joyce Banks commented that many district schools offered fewer competitive food options, which resulted in a decline in profits from these foods and beverages.

Nearly all students receive free lunches in Perry County School District #53, which has allowed for student participation to remain the same following implementation. Due to the economics of the area, Child Nutrition Director Banks noted that most students receive the free lunch and often do not have extra money for competitive foods. She noted that since the school relies primarily on government funds for the lunch program, the drop in competitive food sales has had no impact on the financial status of the program.

### Implementation Plan: Development, Barriers, and Strategies

#### *Development/Implementation*

The high obesity rate in Alabama prompted the state department of education to



mandate the development of stronger nutrition standards. Child Nutrition Director Banks commented, *"They saw [the] need for implementing stronger nutrition [standards for] our competitive food policies because of our obesity rate in the state of Alabama."*

State mandates for stronger competitive food standards occurred around 2005 for implementation in the 2005-06 school year. The district began incremental implementation of the new state standards in the fall of 2005, a year before full implementation was required.

### *Barriers*

The Child Nutrition Department relies mainly on state funds which limited the barriers as they moved to stronger competitive food standards. One barrier noted, however, the treats parents would send for classroom celebrations. Often, parents sent less nutritious treats for birthdays or school parties, which now must meet nutrition guidelines set by the state policy. Parents, Child Nutrition Director Banks said, *"were reluctant at first to accept this, [but] they soon got on board because they know it was not allowed in the schools."* To address this issue, each school administrator was charged with creating a procedure, tailored to the needs of his or her school, to ensure the policy is followed and that parents do not bring less nutritious items to the classrooms.

### *Strategies*

Community involvement has been a vital component in Perry County School District #53's transition to healthier foods. *"We're still doing*

*things to help our community as a whole, alleviate some of the health disparities in our area,"* Child Nutrition Director Banks noted regarding the community's involvement. To encourage the community as a whole to get involved, the school district has organized events like walk to school days that couple physical activity with healthy eating. She said that this provided an opportunity for the schools and community to celebrate the changes. The district has also hosted "Bring Your Parents to Lunch" days at the schools so parents could see and taste what their children eat during the school day.

Additionally, the district fosters community support by allowing school gyms to remain open to parents following the school day. *"We place special emphasis on trying to enlighten the community of ways they can benefit from eating healthy*



We're still doing things to help our community as a whole, alleviate some of the health disparities in our area.

-Food Service Director Joyce Banks





*and exercising and it starts with our children,”* Child Nutrition Director Banks commented. By involving families and the community, Perry County School District #53 is trying to broaden the reach of the policy and positively impact the health of the area.

### **Vending Contracts**

The study's only Perry County School District #53 respondent, Child Nutrition Director Banks, was unsure if schools within the district held exclusive contracts with food and beverage vendors. If exclusive contracts do exist, she noted they are overseen by individual schools.

### **Marketing and Education**

The district does promote their bronze and silver Healthy Schools Program recognition from the Alliance for a Healthier Generation with banners in the schools. These banners reinforce the district's commitment to healthy eating.

The district also reinforces healthier eating through nutrition education in family and consumer science courses and health classes throughout the district. School nurses also present information on nutrition education to school staff members as part of in-service education.

### **The Future**

Currently, Perry County School District #53 does not have plans to make any changes to their wellness policy.

# New London Public Schools



<b>District Name</b>	New London Public Schools
<b>State</b>	Connecticut
<b>Grades in District (NCES)</b>	Pre-Kindergarten – 12
<b># of Schools in District (NCES)</b>	9
<b>Superintendent</b>	Nick Fischer
<b>Food Service Director</b>	Gail Sharry
<b>District Demographics (NCES)</b>	
Total # Students	3,071
% White Students	17%
% Black Students	29%
% Hispanic Students	48%
% students participating in free-and/or reduced price lunch	85%
<b>Locale (NCES)</b>	City
<b>Census Region</b>	Northeast
<b>State Adult Obesity Ranking (as reported in <i>F as in Fat</i>, 2011)<sup>10</sup></b>	42
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle and high school Wellness policy available from district
<b>Persons Interviewed for Case Study</b>	Gail Sharry—Food Service Director Alison Ryan—Principal, Bennie Dover Middle School Margaret Bucarram—Teacher (proxy for Principal Tommy Thompson), New London High School

## Key Findings:

Following the implementation of improved nutrition standards, New London School District experienced an initial drop in competitive food and beverage receipts but they mostly bounced back six months later. The majority of respondents estimated that current competitive food and beverage sales were slightly less now, largely due to limited competitive food offerings and increased participation in the reimbursable school meals program.

The New London Public Schools are Provision 2 schools in the federal school meal program, which means that the district provides all federal program meals at no charge to students. Thus, the district has focused its efforts on enhancing the appeal and array of school meal options and promoting non-food fundraisers. With a highly committed leader in Food Service Director Gail Sharry, New London School District has made a concerted effort to involve food staff and nutrition educators,



school officials, and students in the process of building a healthier campus. The district engaged in unique strategies that included students participating in taste testing trials and providing regular opportunities for feedback between staff and students. This collaboration among all key stakeholders has helped smooth the transition to a more health-focused school.

## Competitive Foods and Beverages Sold

	NO	YES
Regular soft drinks such as Coke/Pepsi	✓	
Fruit-based drinks that are composed of less than 50% fruit juice	✓	
Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C	✓	
Sweetened teas, such as Snapple	✓	
Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)	✓	
Energy drinks like Red Bull or Monster	✓	
Whole fat milk	✓	
Candy (for example, chocolate bars or sugar-coated jelly candies)	✓	
Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)	✓	
Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)	✓	
Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?	Self-operating	

## Food Service Profits

The research conducted with the New London School District did not indicate negative financial consequences across its food service accounts as a result of efforts to boost nutrition standards for competitive foods. At the district level, respondents reported an overall increase in profits for all accounts in the long-term, even when taking into account a hike in food costs. Meanwhile, the schools involved in the study reported profits remaining about the same. In further discussing food service profits, all respondents interviewed pointed to increased participation in reimbursable meals as key to the rise or maintenance of revenues. For instance, increased meal participation through extended before and after school day program offerings has provided added revenues.



Further, the rise in reimbursable meal enrollment over the past few years was also largely attributed to enhancing the appeal and expanding the selection of healthy food choices, such as the newly offered salad bar at Bennie Dover Middle School. At Dover, meal enrollment rates have climbed significantly over time and now hold steady at 90 percent. Principal Alison Ryan (Dover Middle School) recounted, *“There are [a] number of students that are eating more of their meal and there [are also] more students that are eating. They’re allowed to choose the healthy vegetables that they like, whereas going to our regular food line they’d just be served the meal. So, that’s been a big increase in participation.”* The expansion of healthier food options has also made a tremendous impact in participation among students in the upper grades, such as at New London High. The high school students are able to choose from whole-wheat sandwiches, brown rice, and also fresh fruits, which, teacher Ms. Bucarram noted has made an incremental, but ultimately significant, difference in student participation rates.

New London School District does not rely heavily on profits from competitive food and beverage sales. For instance, the district engages in limited competitive food offerings in their school cafeterias; baked chips and whole grain, low-fat cookies and carbonated fruit juice are offered at the high school. In addition to prohibiting school-based stores from selling less nutritious foods and beverages as part of their improved nutrition standards, the district also encourages in-school fundraisers and events to limit sales of less nutritious foods and beverages. While overall food service profits increased, implementing stronger nutrition standards did generate changes in competitive food sales profits in the district. At the early post-implementation phase, the district’s competitive food and beverage sales underwent a small reduction. This small decline, though, made a relatively quick rebound after six months. Currently, competitive food sales across the district are slightly down again as less nutritious food offerings have lessened and more students have chosen to get a lunch as part of the reimbursable meal program, described Food Service Director Sharry. On the other hand, Principal Alyson Ryan (Dover Middle School) perceived a minor increase in competitive food sales. Despite shifts in competitive food sales, the district’s food service budget still remains profitable as a whole.

As a result of responding proactively to more robust nutrition standards, New London School District weathered through the transition to stronger standards with few negative impacts. The district worked to encourage school groups to think broadly about fundraising. Importantly, the district concentrated its efforts on expanding healthy food options while ensuring enhanced meals still appealed to students, which ultimately lead to greater participation in the reimbursable meals program. It is all part of a larger approach, Food Service Director Sharry expressed, to “changing their philosophy” on fundraising and considering the benefits of choosing healthier alternatives.



## Implementation Plan: Development, Barriers, and Strategies

### *Development/Implementation*

New London School District instituted stronger nutrition standards for its school meal programs and competitive foods and beverages upon Food Service Director Sharry's arrival about seven years ago. Beginning incrementally, the district modified menus to reflect fewer processed foods and exchanged them for food that could be cooked on-site. The gradual implementation also included switching one slice of white bread to whole wheat and a year later, serving only whole wheat bread. Additionally, the district formed a wellness committee to act as a support group in the development and implementation of the standards. While Food Service Director Sharry, the superintendent, and school principals served as the key figures in the decision-making process, they also relied on the voices of students on the committee. Along with students, committee members included nurses, physical education teachers, some parent organizations, and the local chapter of the American Red Cross Association. *"It really is a genuine collaboration to get our kids engaged in a healthier lifestyle,"* said Principal Ryan (Dover Middle School). During the implementation stage, the committee continued to provide support for Food Service Director Sharry and school principals by helping "spot check" their schools to ensure the new standards were followed. The committee is currently not as active as before but is still recognized for its valuable role early on. Food Service Director Sharry acknowledged this support as she recalled how *"everybody was on board with healthy eating."* More recently, the New London School District intensified its mission of building a healthier district by joining the USDA's HealthierUS School Challenge. To meet the challenge's requirements, the district began adding a wider variety of green and orange vegetables and fruits. Food Service Director Sharry noted that the transition to this took time, but the change was a relatively welcomed addition given the steps that the district has already taken to create a healthier school environment.

In addition to changes in the cafeterias, the district advised school stores and extracurricular interest groups to think more innovatively about how to sell goods that adhere to the district's approach to building healthier schools. School stores, for instance, shifted their focus to selling supplies for students like pens, pencils, and notepads. Extracurricular organizations have engaged in non-food fundraisers. This switch to non-food fundraising strategies such as carwashes or flower sales, in turn, has translated to a better understanding of the role of these groups in the health of their school. As Food Service Director Sharry described, *"Now that they don't do candy sales and they have to find other alternatives, I think they see healthier food on the lunch line. It's changed their way of thinking of what they're selling."*



### Barriers

The school district did experience obstacles to implementing stronger nutrition policies especially during the initial phases. School principals expressed concerns about loss of funding as a result of limited fundraising with foods. The school district, under Food Service Director Sharry's guidance, tried to ease concerns by providing resources and ideas for schools to engage in non-food fundraising. For instance, the district offered resources from the state which, Food Service Director Sharry noted, *"has a lot of great ideas on how to fundraise without using food."*

One important ongoing barrier the district has faced is locating the kinds of foods that are healthy yet appealing to students. As in most school districts, New London School District has a tight budget, which can add another layer of difficulty to procuring reasonably-priced healthier foods that are appealing to youth. In addition to this challenge of obtaining affordable healthy foods, the schools have limited of storage space for fresh fruit and vegetables. Not all the schools in the district have ample facilities to protect added fresh foods, and the risk of spoilage without proper refrigeration space presents a barrier to offering them. The district also experienced some initial pushback from students about some of the adjustments that made lunches healthier. For instance, students at first did not care for the healthier whole grain pizza crust. Teacher Ms. Bucarram (New London High School) described, *"I think they had the whole wheat and they all complained, but now they don't mention it."*

### Strategies

A variety of strategies were utilized by New London School District to support implementation of enhanced nutrition standards. As previously noted, the school district

emphasized a broad selection of healthy food options for students in the meal programs. A build-your-own sandwich bar was one unique way of offering more choice at the lunch line. Focusing on communication and involvement, the district buttressed the transition with intentional efforts to understand which healthy foods students would enjoy. Staff persons were available during the lunch periods to listen to students' views of meals served that day. Principal Ryan (Dover Middle School) believes active staff participation to hear students' concerns is key. As she described, *"I walk through the cafeteria line myself to see what kind of service the students are receiving, so if I see an issue I can speak to the issue directly and say I was there, I saw it with my own eyes and we can address it together."* Taste tests



The students really felt like someone was listening to them and they feel more connected to the school because they really feel empowered to make their own healthy choices.





were also conducted in focus groups with students eating with school administrators, including the superintendent. Additionally, the district also provided nutrition education in classrooms which provided another avenue to finding out student food preferences on the new menu. Principal Ryan (Dover Middle School) noted, *“The students really felt like someone was listening to them and they feel more connected to the school because they really feel empowered to make their own healthy choices.”*

The feedback from staff, the focus groups, and the nutrition education program was then communicated to the food service director, whose leadership proved critical to the successful implementation of the standards. *“We just added two salad bars, and they’ve been a huge hit at the high school and middle school, so the kids love it, as well as other choices,”* Food Service Director Sharry said. She also consulted with principals to identify ways to shift current fundraising activities to non-food fundraisers. Food Service Director Sharry’s strategy to maintain open lines of communication encouraged students and staff to engage in regular discussions with her about the school’s food changes. *“The students know who she is and they approach her as much as she approaches them. She’s receptive to it,”* Principal Ryan (Dover Middle School) said.

Another tactic New London School District has employed to facilitate the implementation of the nutrition standards while improving meal participation rates involves the extended day program. At Dover Middle School, extended programming has provided opportunities for students to receive access to a healthy breakfast, lunch, and supper, which has improved the school’s profits. The organized structure of the extended day program gives students a reliable source of meals throughout the day and thus has translated to higher participation rates. Beyond profits and participation, Principal Ryan (Dover Middle School) responded to how the extended day structure has also strengthened the school’s overall meal program, *“The fact that they’re choosing to come early to school to have that breakfast really speaks to the validity of our programming.”*

Other creative strategies have also been employed to support implementation of stronger nutrition standards in the district, including changing the actual cafeteria environments. Changes in cafeterias range from restructuring the flow of lunch lines to repainting walls with colors that make the environment more pleasant for students. These changes in atmosphere, teacher Ms. Bucarram (New London High School) noted, have made a remarkable difference not only aesthetically but also in how students choose their meals and *“the whole climate of how they feel.”*



## Vending Contracts

New London School District does not currently have an exclusive vending contract with any food or beverage distributor.

## Marketing and Education

Nutrition education and unique approaches to marketing are ways that New London School District has promoted healthier food and beverage options at its schools. At campuses like Dover Middle School, the district has strategically focused on building education opportunities with staff, students, and parents to better facilitate the shift to healthier foods. For instance, the school district began with providing cafeteria staff with training on what food they were serving, its health benefits, and how to present that information to students. This training has helped students learn more about what they choose to eat while also developing more enriching interactions between students and staff. This effort is aligned with the overall holistic wellness approach the district is taking, with a focus on an overall healthy lifestyle. As Principal Ryan (Dover Middle School) noted, the district's nutritionist visits classrooms and teaches students about developing a balanced diet, the myths about dieting, and smart, healthy ways of fitting in physical activity at a young age. “We find a target population is our girls. [The nutritionist] really gives them other things that they can do to be healthy,” Principal Ryan described. Parents are also made



We just added two salad bars, and they've been a huge hit at the high school and middle school, so the kids love it, as well as the other choices.

-Food Service Director Gail Sharry



Parents are also made aware of better food options in the schools through regular newsletters that feature the cafeteria's healthy menu items.

The school district employs unique tactics to share information about its healthy meals and food options. School officials at Dover introduced healthy foods during special events to generate students' interest on newly available options at the school. For example, Ryan described unveiling healthy items on a day the school convenes a campus-wide event, such as the yogurt parfaits Dover Middle School introduced at a staff basketball game. “It's building excitement around making good choices and it's making it cool to eat healthy,” Principal Ryan said. Further, healthy meal options were mentioned as part of the school's morning announcements, displayed on a board outside the entrance to the cafeteria, and also announced over the cafeteria's microphone system to let students know what meals were served that day. More simple efforts, as Principal Ryan described, can be of significant value as well. “We also spread it word of mouth, kids telling kids that lunch is great is the best publicity that we can get,” she said.



## The Future

New London School District has no specific plans to alter its policy for competitive foods and beverages. Although competitive food offerings in the district are “very limited as it is,” Food Service Director Sharry indicated not ruling out the possibility of re-examining the issue in the future. However, for now, the district is showing continued progress. “As we offer more choices and healthier choices on the lunch line, [students] are less apt to buy the à la carte items. They don’t need them because they are making a complete meal with everything that we offer,” Food Service Director Sharry noted. Looking at their current efforts to promote wellness, New London School District believes it is taking the right steps forward to building healthier schools and students.

# Miami-Dade County Public Schools



<b>District Name</b>	Miami-Dade County Public Schools
<b>State</b>	Florida
<b>Grades in District (NCES)</b>	Pre-Kindergarten – 12
<b># of Schools in District (NCES)</b>	558
<b>Superintendent</b>	Alberto M. Carvalho, MA
<b>Food Service Director</b>	Penny Parham, MS, RD
<b>District Demographics (NCES)</b>	
Total # Students	347,366
% White Students	9%
% Black Students	25%
% Hispanic Students	65%
% students participating in free-and/or reduced price lunch	70%
<b>Locale (NCES)</b>	Suburb
<b>Census Region</b>	South
<b>State Adult Obesity Ranking (as reported in <i>F as in Fat</i>, 2011)<sup>10</sup></b>	32
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle and high school <a href="#">Healthy Beverage and Food Policy</a> <a href="#">Wellness Policy</a>
<b>Persons Interviewed for Case Study</b>	Penny Parham, MS, RD—Food Service Director Colleen Del Terzo—Principal, West Miami Middle School Ms. Woods—Cafeteria Manager

### Key Findings:

Miami-Dade County Public Schools experienced an initial decline in competitive food and beverage profits that rebounded the following school year when students returned and began experiencing the healthier food as the norm. The decline was also mitigated by increased reimbursable school meal participation stemming from improving meal options. The district also switched to non-food items to sell for fundraising.

The district has always had strong leadership and school professionals who have championed healthier school policies. In addition, the district credits the Alliance for a Healthier Generation and the USDA's HealthierUS School Challenge for technical assistance for their successful implementation of stringent nutrition standards.



## Competitive Foods and Beverages Sold

	NO	YES
Regular soft drinks such as Coke/Pepsi	✓	
Fruit-based drinks that are composed of less than 50% fruit juice	✓	
Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C	✓	
Sweetened teas, such as Snapple	✓	
Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)		✓ (HS only)
Energy drinks like Red Bull or Monster	✓	
Whole fat milk	✓	
Candy (for example, chocolate bars or sugar-coated jelly candies)	✓	
Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)	✓	
Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)	✓	
Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?	Self-operating	

## Food Service Profits

Miami-Dade County Public Schools experienced a substantial decrease in competitive food and beverage profits in the first six months after implementing more stringent nutrition standards. However, after this initial decline, profits began to increase gradually due to two main factors. First, changes were phased in a few months prior to summer break. As a result, when students returned to school in the fall they purchased what was available without realizing there had been a change – it seemed like the norm, rather than a sudden change. Second, schools shifted to non-food fundraisers to slowly shift sources of profit. Schools started to sell items like scented pencils, notebooks, and other school supplies rather than food or beverage items.

For the school meal program, the food service director reports that long-term school meal participation has increased substantially. One possible explanation may be the deliberate efforts made to improve the meal services. In this way, food services attempted to fill the profit gap that stringent competitive food and beverage policies left by improving the reimbursable meal program. Food Service Director Penny Parham reported *“In our situation, we worked hard to make sure that those healthier choices were an actual reimbursable meal. Students could benefit from a complete meal...they kind of go hand in hand.”*



In addition, respondents felt that the downturn in the economy likely influenced free- and reduced-price meal participation rates.

### Implementation Plan: Development, Barriers, and Strategies

#### *Development/Implementation*

The district began to consider stronger nutrition standards after reviewing the local and national data on childhood obesity. Dr. Colleen Del Terzo, Principal at West Miami Middle School, recalls that administrators had the opportunity to give feedback on concerns and potential strategies after reviewing the body mass index/obesity trends at the local middle and high schools.

Miami-Dade County Public Schools implemented standards incrementally over the course of five years. Several factors led to the creation of stronger nutrition standards. First, strong leadership from a 'forward-thinking' school board meant that the district had a history of interest in improving the health environment of schools. Then, the Child Nutrition and WIC Reauthorization Act of 2004's requirement for wellness policies acted as a catalyst to move forward with initiatives that the district had started. Food Service Director Parham stated, *"We had already been doing so many of them [initiatives] and working together on so many levels that we were able to re-transition into something that is now a required federal compliance issue."*

#### *Stakeholders*

Since 2005, the district has had a Food and Nutrition Advisory Committee, comprised of community representatives and district staff liaisons. Committee members are appointed by the school board; examples of community representatives are pediatricians, parents, and health department staff. Staff liaisons to the committee have included the physical education director, school health director, principals, and a nutrition coordinator from the department of food and nutrition. This committee was responsible for creation of the district-wide wellness policies.

Key leaders and champions have emerged during the promotion and implementation of stronger nutrition standards. The superintendent has "put the power of his leadership behind" initiatives, recalled Food Service Director Parham, such as walk to school programs and policies to eliminate trans fats. The physical education department, the food and nutrition department, and the procurement office have played major roles in the initiatives. Further, the principals have been very cooperative at each school and have helped to enforce policies.



### *Barriers*

Miami-Dade County Public Schools faced several barriers when transitioning to stronger nutrition standards. The food service director stated that schools were reliant on competitive food sales, formerly junk foods, to fill the gaps created by inadequate funding. Stakeholders were concerned about losses of revenue and the impacts on students. When looking to alternative sources of revenue, there were challenges with how this could be operationalized. Food Service Director Parham reported that, *“The reason competitive foods proliferated so heavily for kids is that they’re actually inexpensive and easy to deal with. You can buy a whole box of lollipops and leave them in your closet. But you can’t do that with apples...you can’t do that with fresh food. So it’s not really...the proverbial comparing apples to oranges.”*

It was challenging to procure food and beverage items that complied with the standards and were both affordable and profitable. This challenge was addressed by relying on the Alliance for Healthier Generation for technical assistance, as well as the food industry, that Food Service Director Parham says has “come a long way” in terms of providing products that comply with strong nutrition standards.

Further, creation of the wellness policy, particularly around food and beverage standards, was challenging due to diverse understandings of the term “healthy foods.” To address this concern, the committee relied on state policies, as well as recommendations from the Alliance for Healthier Generation Competitive Food and Beverage Guidelines and the USDA’s HealthierUS Schools Challenge guidelines.

Another barrier noted by food service staff is ongoing pushback from parents and staff. Whether parents are simply not aware of food policies or disagree with the policies, at times parents act as barriers to improving the school food environment; they want to sell donuts or other less nutritious foods because they have been successful fundraisers in the past. School professionals continue to address this barrier by communicating with parents and staff. Food Service Director Parham said, *“So we work hard to communicate...your freedom of choice is not being taken away, but we will not be selling for profit things that we know do not benefit our children’s health.”* Parham also indicated that, *“We’ve had workshops. But, you know, it’s a big place and, you know, you don’t always get an opportunity to talk with somebody face to face or whatever. But it’s communicated to our principals in our administration....”*

Another challenge described by school staff was the decreased disposable income and increased reliance on reimbursable meals during poor economic

times. Food service staff reported that the downturn in the economy has meant fewer students are purchasing competitive foods and more participating in the free- and reduced-price lunch program.

### *Strategies*

School professionals have partnered with the Alliance for Healthier Generation since 2008 for technical assistance and support toward transitioning to stronger nutrition standards.

One strategy that the school district employed was to educate and make changes with participation by all stakeholders, including students. Food Service Director Parham shared her feeling that, *“You can't just pull the rug out of children...on what they buy without them having the opportunity to adjust and know what's coming and make that change.”*

In this way, the district ensured that acceptable options were in place to replace the items that were taken away. Part of investigating new options was soliciting students' input on new food and beverages. *“We have student focus groups for all of our new food items... it's fantastic...often you give them the assignment and tell them that they have to discuss with each other. 'Oh, I like it. Do you like it?' They fill out the form and they taste,”* Parham said.

One innovative strategy was made possible by the CDC-funded Communities Putting Prevention to Work (CPPW) program. With funds from this grant, Miami-Dade County Public Schools purchased healthy vending machines that dispense reimbursable school meal items created from the farm to school program (e.g., fresh salads and wraps). To purchase these items, students enter their student ID number and the cost is deducted from their accounts. Since all students must enter their ID regardless of whether they are paying full price for a meal or qualify for a free- or reduced-price meal, this has helped to eliminate the stigma attached to eating the school meals, and has increased participation rates at the senior high school.

At West Miami Middle School, Principal Del Terzo reported that requiring all students to walk through the cafeteria rather than go straight to the outdoor waiting/eating area has made a difference in meal participation rates. Principal Del Terzo is



We have student focus groups for all of our new food items...it's fantastic...often you give them the assignment and tell them that they have to discuss with each other. 'Oh, I like it. Do you like it?' They fill out the form and they taste.

-Food Service Director Penny Parham





also attentive to students' acceptance of food. She often is present in the cafeteria during meal times to eat with the students and/or listen to comments, and stated that maintaining school meal participation is one of the main strategies for avoiding financial losses in the food service program.

At the same school, as an incentive to participate in the breakfast program before state standardized exams, students who participate in the breakfast program are able to pick up "Free A" coupons. They can use these coupons to negotiate with their teachers for higher grades on homework assignments, though teachers have discretion regarding whether to accept them, and which grades or assignments they are applied to. Administrators believe that having a nutritious breakfast before the test has had an impact on scores.

“  
...when we had to have a meal price increase because of significant cost increases back in '07-'08...we purposefully did not raise the price of fruit, of low-fat milk, or a bottle of water. Those prices have not gone up in 20,15 years...”

-Food Service Director Penny Parham

”  
When carbonated beverages were removed from vending machines in 2005, the district also lowered the price of bottled water by 10 cents. Food Service Director Parham reported that bottled

water sales remain strong. In addition, she shared that “...when we had to have a meal price increase because of significant cost increases back in '07-'08... we purposefully did not raise the price of a piece of fruit, of low-fat milk, or a bottle of water. Those prices have not gone up... in 20, 15 years. ...We keep the prices of real food, for lack of a better term, low and then the price of packaged items or other things, you know, have to be reflective of a margin”.

Finally, Principal Del Terzo has initiated an aggressive campaign to enroll all eligible students into the reimbursable school meal programs. This campaign brought participation rates up from about 72% to roughly 88%. The school has hired a staff person, a community involvement specialist, who connects with parents to explain the programs, find the child to bring back the signed form, and then process the form. Principal Del Terzo observed, “So it's a multi-tiered approach to making sure the maximum students that are eligible are on free and reduced [price] lunch.”



## Vending Contracts

Miami-Dade County Public Schools does not have an exclusive contract. Principal Del Terzo stated that monies from vendors go to a general purpose account that is used to maintain the school, purchase gas or other expenses for field trips, and other general needs of the school.

## Marketing and Education

The food and nutrition department does not have a budget for marketing; however, as part of the Miami-Dade CPPW program the health department aired TV commercials for healthier eating. At West Miami Middle School, Mrs. Woods, the cafeteria manager, decorates the cafeteria with large posters promoting healthy food and beverage items.

In addition, the farm to school program and USDA's Fresh Fruit and Vegetable Program provide opportunities for students to taste test fruit and vegetable items, which has been very popular with students. Food Service Director Parham feels that engaging students in selecting new items has worked to increase enthusiasm for school meal items.

## The Future

Miami-Dade County Public Schools has plans to further improve competitive food and beverage standards in the future. Part of this effort may involve broadening standards to apply to all staff and school professionals.

# Boston Public Schools



<b>District Name</b>	Boston Public Schools
<b>State</b>	Massachusetts
<b>Grades in District (NCES)</b>	Pre-Kindergarten – 12
<b># of Schools in District (NCES)</b>	131
<b>Superintendent</b>	Carol R. Johnson
<b>Food Service Director</b>	Shamil Mohammed, MBA, BBA
<b>District Demographics (NCES)</b>	
Total # Students	56,037
% White Students	13%
% Black Students	35%
% Hispanic Students	41%
% students participating in free-and/or reduced price lunch	74%
<b>Locale (NCES)</b>	City
<b>Census Region</b>	Northeast
<b>State Adult Obesity Ranking (as reported in <i>F as in Fat, 2011</i>)<sup>10</sup></b>	49
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle and high schools <a href="#">Nutrition Policy and Guidelines</a> <a href="#">Wellness Policy</a>
<b>Persons Interviewed for Case Study</b>	Shamil Mohammed, MBA, BBA—Interim Food Service Director Caitlin Westfall, MS, MPH—Wellness Policy and Promotions Manager Caren Walker Gregory, EdD, MEd—Headmaster, Edward M. Kennedy Academy for Health Careers Kristin Driscoll, EdM—Health Engagement Coordinator, Edward M. Kennedy Academy for Health Careers Abhijit Potdar, MS—Field Coordinator, Edward M. Kennedy Academy for Health Careers

### Key Findings:

Although all districts reported at least an initial decline in competitive foods profits, representatives from Boston Public Schools were the only ones that reported the decline in competitive food profits to be “substantial.” This decline, however, was largely attributed to the fact that many schools within the district made a deliberate decision to completely eliminate competitive foods as part of a larger effort to get students eating more complete, healthier lunch options. Simply put, eliminating competitive foods obviously results in complete elimination of the profits that are specifically associated with competitive foods.



Even so, the complete elimination of competitive foods in some Boston Public Schools have not cause undue negative financial impact. Similar to what was experienced in other school districts, respondents reported that the overall financial position across all food service accounts improved. Losses related to elimination of competitive foods were offset by increased participation in reimbursable school meals programs.

Boston Public Schools' stronger nutrition policies have been a catalyst for teaching students and community members about nutrition and healthy eating. For example, they eliminated sugar-sweetened drinks before any other school district in Massachusetts and prior to Mayor Tom Menino issuing an executive order to ban the sale of sugar-sweetened beverages on Boston city property in April 2011.

Some of the parent teacher associations (PTAs) in the district, although not required to adhere to the stronger nutrition standards for their external fundraising efforts, have followed the district's lead. PTA members reported raising money for extracurricular groups through non-food fundraisers.

Schools in Boston now largely "think outside the box" and raise funds for programs without relying on selling less nutritious items to their students, a few examples are provided below.

## Competitive Foods and Beverages Sold

	NO	YES
<b>Regular soft drinks such as Coke/Pepsi</b>	✓	
<b>Fruit-based drinks that are composed of less than 50% fruit juice</b>	✓	
<b>Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C</b>	✓	
<b>Sweetened teas, such as Snapple</b>	✓	
<b>Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)</b>	✓	
<b>Energy drinks like Red Bull or Monster</b>	✓	
<b>Whole fat milk</b>	✓	
<b>Candy (for example, chocolate bars or sugar-coated jelly candies)</b>	✓	
<b>Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)</b>	✓	
<b>Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)</b>	✓	
<b>Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?</b>	Self-operating	



## Food Service Profits

Boston Public Schools does not make a profit on food services; in fact, food services operate at a deficit. But Interim Food Service Director Shamil Mohammed reported that even while implementing stronger nutrition standards across both competitive foods and the reimbursable meal program, that deficit has been reduced significantly, more than 70%, over the last few years. Discussing profit in this context, Interim Food Services Director Mohammed said, *“I think we could break even just by increasing our participation on the reimbursable meals.”* As a result of a focus on improving the taste and appeal of reimbursable school meals, along with other operational improvements, Boston Public Schools engendered increased participation in the program. This participation increase is perceived to be a major factor in improving the financial position of the food service department while implementing stronger competitive food and beverage standards. Fundraising is subject to the same stronger nutrition policies as school meals and competitive foods. Interim Food Service Director Mohammed reported that across the district, fundraising in settings outside the purview of the food services department, such as in school stores, has been harder to monitor and enforce standards. A number of schools in the district have even opted to eliminate competitive food sales and focus solely on providing complete, healthy meals instead.

Edward M. Kennedy Academy for Health Careers is a case in point. Headmaster Caren Walker-Gregory takes the idea of nutrition and health seriously, and chose to eliminate all competitive food sales by closing the school store. Speaking about this decision, Headmaster Walker-Gregory stated, *“That’s part of our vision and mission. And so because it’s part of our vision and mission it’s a whole school initiative.”* Likewise, with no active PTA, fundraising is done by extracurricular groups and clubs, none of which involves selling food. Health Engagement Coordinator Kristin Driscoll tries, *“to encourage the kids to just think outside of the box”* when she helps them plan fundraising activities. For instance, the students sold carnations and small Teddy bears on Valentine’s Day, and held a basketball tournament to raise money for the Red Cross; this had the added value of engaging students and teachers together, and promoting physical activity. Exploring alternative fundraisers, the school has been able to both uphold its healthy lifestyle mission and successfully raise funds without relying on less nutritious foods and beverages.

As with many districts, the economic climate drove up participation rates for the breakfast and lunch programs. But the district reported that offering better and healthier menu options was another critical factor in the participation increase. *“We are pushing more salads. We’re pushing more fresh foods...the overall choices that we’re offering in the district has helped us to increase participa-*

tion in the overall school meal program,” Field Coordinator Abhijit Potdar said. Respondents agreed that the new meal menus provide all that students need

and want, reducing desire for competitive foods and beverages during the day. Interim Food Services Director Mohammed said, *“Kids eat it with their eyes first. So it looks good, smells good, tastes good, it’s good for them.”*

“  
I think we could break even just by increasing our participation on the reimbursable meals

-Food Service Director Shamil Mohammed  
”

By offering a selection of better, healthier, and more appealing menu items and increasing reimbursable meal participation, Boston Public Schools has been able to transition to strong competitive food and beverage standards without facing long-term, negative financial consequences. According to Interim Food Services Director Mohammed, *“If we’re able to offer healthy foods to our students, I think it’s worth it...It’s something that we did not do so much analysis on; it was more on what’s the right thing to do.”*

### Implementation Plan: Development, Barriers, and Strategies

#### Development/Implementation

Boston Public Schools has a department devoted to health and wellness, as well as an array of community partners that helped develop a policy to meet the needs of schools. Starting with the elimination of sugar-sweetened drinks, the district began developing and implementing policies before any other district in Massachusetts. The policies were developed by a wellness committee including district employees such as the Health and Wellness Department, Food and Nutrition Services, administrators and community partners like the Harvard Prevention Research Center, the New England Dairy and Food Council, the Boston Health Commission, and the Alliance for a Healthier Generation. The committee developed subgroups to focus on various aspects of the policy, including one focused specifically on competitive foods and beverages. Wellness and Promotions Manager Caitlin Westfall believed the extensive buy in has been helpful, remarking that, *“when we get a lot of people at the table, a mix of experts and community partners and also individuals from the school department that have different perspectives, that always, we’ve found at least in Boston...helps move health in general along the continuum toward the healthier, in my opinion, light.”*

The Alliance for a Healthier Generation has been an important partner helping schools in the district successfully transition to healthier options. Health Engagement Coordinator Driscoll (Kennedy Academy) noted that, *“The Alliance for a*



*Healthier Generation kind of gave us the structure to start making choices.” They have been a particular help in crafting alternative approaches to fundraising. The partnership lends credibility to the efforts to improve the food and beverage standards, and helps foster change in the school culture. As a result of the current bronze-level recognition from the Alliance, Kennedy Academy staff members understand the purpose of the changes and are invested in obtaining even higher recognition.*

### *Barriers*

A drawback of being one of the pioneers of improved competitive food and beverage nutrition standards was that vendors weren’t prepared to provide many items that meet them. Beverages are a particular struggle, as Boston Public Schools continue to search for a vendor that sells juice which meets current standards. Interim Food Services Director Mohammed stated, “*We could not find a vendor*



*If we’re able to offer healthy foods to our students, I think it’s worth it...It’s something that we did not do so much analysis on; it was more on what’s the right thing to do.*

*-Food Service Director Shamil Mohammed*



*that could provide us a 4 oz juice.” Noting that this is a major factor in the decrease in competitive food and beverage sales Mohammed said, “I think it was due more to us adopting policies but at the same time not working closely with the vendors*

*to make sure the products are available.” This is a challenge the district hopes to overcome so that they can provide another healthy beverage option to students at school.*

The cost of healthier items is another barrier Boston Public Schools has faced since implementing strong nutrition standards. Speaking to this point, Field Coordinator Potdar said, “*When you move towards a healthier product, it does cut into your profits.*” The corollary challenge is finding a price point acceptable to students. Students are often unaware of the higher costs of some items and, when “*you sell something at a higher price, clearly the kids don’t understand why an ice cream that was fifty cents last week or last month, all the sudden it’s either 75 cents or a dollar,*” Field Coordinator Potdar noted. The district has sought grants to subsidize the costs of healthier items and engaged students in the pricing process. Interim Food Services Director Mohammed noted that the Food and Nutrition Services Department wants to add hummus and carrots to the menu and the district surveyed the students to find out what price point would work best for this new menu option. Highlighting this point Mohammed said, “*You want to make the healthy choice the easy choice and pricing is a big part of it.*”



For schools, open campuses and location present challenges. Kennedy Academy is situated on a college campus. While freshmen are restricted to the high school's campus for lunch, sophomores, juniors, and seniors are free to leave. As a result, these students have many less-healthy options to choose from at lunch. To address this issue, the school tries to empower students to choose healthier options off campus through education. Health Engagement Coordinator Driscoll shared that a school program assistant, *“went through all the menus for all the restaurants on [the college] campus and even like the little pizza shop down the street and developed a list of healthier options for kids.”* Helping the students make informed decisions wherever they are is a way the district and school hopes to shift social norms around eating.

### *Strategies*

Improving items served in the breakfast and lunch programs was a key strategy used by Boston Public Schools to increase meal participation rates. Creating menus that are more appealing to students and providing a complete meal reduces the need to sell competitive food and beverage items to maintain profits. According to Field Coordinator Potdar, *“In order for us to run a successful program, we are pushing for more breakfast and lunch participation.”* This is essential to maintaining food service income and ensuring students get a healthy meal. A special focus has been on increasing breakfast participation by making it more accessible. Interim Food Services Director Mohammed explained that this increased access was partly achieved through, *“grab and go stations where they can grab breakfast and the teachers allow them to eat in class.”* Between serving healthier items that students enjoy and making breakfast more accessible, Boston Public Schools has been able to increase meal participation rates and reduce their reliance on competitive food and beverage sales.

Engaging the students in the implementation process is another important strategy Boston Public Schools use. In order to create menus that will obtain positive student response, the Food and Nutrition Services Department utilizes taste testing sessions to elicit feedback from students and help them begin to adapt to new options. Wellness and Promotions Manager Westfall noted that the district does, *“taste testing throughout to make sure students are familiar with the foods in general.”* Additionally, engaging students in the process makes them feel like they are a part of this effort rather than just the recipients of the policy. *“Last year a particular student group did a health food video contest,”* she stated, which helped them get excited about eating healthier and instilled a sense of ownership.



Communication and support among all stakeholders is also a significant part of Boston's implementation strategy. According to Wellness and Promotions Manager Westfall, when schools are not following the district wellness policy it usually is because of a lack of knowledge regarding the standards or how to implement them. *"We're trying to support them and get the word out that here are some ways that they can change what the current practice are,"* Westfall said, *"and I inform the wellness council person to come to trainings so that they're better informed of the policy."* Furthermore, the district also elicits stakeholder feedback in various ways. *"We have monthly managers meetings and they also are very candid in their emails. So if a certain item is not working in their school, they'll let us know,"* Interim Food Services Director Mohammed said regarding cafeteria communication with the district about new menu items.

Working with the greater Boston community and fostering stronger relationships between schools and community groups is another strategy used by Boston Public Schools. The approach is to reinforce healthy eating efforts at school in the many community organization programs students attend after school. The district has worked to change the broader food and beverage environment for students by working with these community organizations to ensure their foods and beverages meet the district standards. According to Wellness and Promotions Manager Westfall, *"because they were so close together we wanted to make sure that the environment; you know some students might not have realized that the school environment is a little different from the community center. So we wanted everyone on the same page."* The school's efforts to transition to healthier nutrition policies and change student eating habits are also supported by a larger push to improve the health and nutrition of Boston residents. Field Coordinator Potdar mentioned that, *"last year the city of Boston passed regulations where they're not even allowing sale of soda...in any of the city buildings."*

Finally, modeling of healthy eating habits by teachers and staff has helped schools shift student norms to healthier items. Health Engagement Coordinator Driscoll shared how she exposes students to new foods and creates openings to try new things through her own lunches, *"When I eat I'll bring foods to try and kids will say, 'what is that?' 'oh, this is quinoa, this is hummus.'" According to her, "just encouraging small behavior changes and making sure everybody's eating and really building relationships with our kids,"* facilitates staff and students' communication about healthy options and helps them adapt to new habits together.

### Vending Contracts

Currently, Boston Public Schools does not have an exclusive vending contract with any food or beverage distributor.



## Marketing and Education

Marketing, promotion campaigns, and education are important components of implementing the district wellness policy in Boston Public Schools. A comprehensive toolkit was developed by the Health and Wellness Department to assist schools with promotion and education efforts. The toolkit is provided to schools during twice-monthly training programs conducted by the department. The kits include posters that schools can use to help promote healthy eating on campus.

The district also promotes local foods through their Local Thursday event. *“We have a local fruit or a locally grown vegetable and it’s been promoted for the last three years extensively in all our cafeteria schools,”* Field Coordinator Potdar explained. Marketing the locally grown fruits and vegetables creates further buy in from community members while connecting students to healthier items.

Education is also a key component in influencing students to choose nutritious items and live healthier lives. *“I just feel like it’s about awareness and once the awareness and education is in the classroom then students begin to make healthier choices,”* Headmaster Walker-Gregory (Kennedy Academy) said. Beyond traditional health classes, Boston has found ways to incorporate nutrition and health into their broader curriculum. *Planet Health and Eat Well and Keep Moving* are curricula the district uses that integrate messages of nutrition and healthy living into math, history and language arts classes. Importantly, Wellness and Promotions Manager Westfall noted that, *“it’s not taking away time on learning that a lot of schools are concerned about, rightly so.”* Moreover, Boston Public Schools are educating students on preparing meals and snacks that taste good, are healthy and inexpensive. During the after school cooking club at Kennedy Academy, Health Engagement Coordinator Driscoll said, *“We’re just kind of opening the kids’ eyes to kind of what’s out there and showing them how to do things that are inexpensive.”*

Similar to the effort to improve nutrition in community programs attended by students, the Health and Wellness Department is also reaching out to parents to extend the culture of healthy eating to home. Many families in Boston struggle to serve a balanced dinner at the end of a long day and, sometimes, on a tight budget. Boston Public Schools has leveraged its Parent University program to help parents learn to easily prepare a healthy, inexpensive meal. Westfall explained that Parent University is, *“kind of a series of different classes that are offered to parents on the weekends and nutrition and cooking are part of those classes.”* The toolkit described above also includes ways for schools to work with parents,



creating more opportunities for staff and parents to send a united message to students on the importance of healthy eating.

### The Future

Just prior to this study, Boston Public Schools revamped their competitive foods policy, but will continue to examine its efficacy in the years to come. At Kennedy Academy, Health Engagement Coordinator Driscoll noted that they would like to develop more ways to have healthy classroom parties and celebrations. Through their many tools and multi-tiered support system in Boston Public Schools, the district is continuing to push for more progress in the field of child health. Focused less on profit and more on the importance of the students' health, Interim Food Services Director Mohammed said that moving to stronger competitive food standards was based, "*more on what's the right thing to do.*" Providing students with healthy options, Boston Public Schools is working to create a healthier generation of learners and fuel them for future success.

**Jackson  
Public Schools**



<b>District Name</b>	Jackson Public Schools
<b>State</b>	Mississippi
<b>Grades in District (NCES)</b>	Pre-Kindergarten – 12
<b># of Schools in District (NCES)</b>	64
<b>Superintendent</b>	Dr. Jayne Sargent
<b>Food Service Director</b>	Mary Hill, MS
<b>District Demographics (NCES)</b>	
Total # Students	30,366
% White Students	1%
% Black Students	96%
% Hispanic Students	1%
% students participating in free-and/or reduced price lunch	88%
<b>Locale (NCES)</b>	City
<b>Census Region</b>	South
<b>State Adult Obesity Ranking (as reported in <i>F as in Fat, 2011</i>)<sup>10</sup></b>	1
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle and high schools <a href="#">Wellness Policy</a>
<b>Persons Interviewed for Case Study</b>	Mary Hill, MS—Food Service Director Marlene Turner—Assistant Principal, Siwell Middle School

\*\*\* Assistant Principal Marlene Turner of Siwell Middle School indicated that her school does not sell competitive foods or beverages. Thus, information included in this case study reflects responses only from Food Service Director, Mary Hill.

## Key Findings:

Jackson Public Schools saw an initial decline in competitive food and beverage profits when new standards were implemented, but these rebounded within a year; a more recent decline has occurred due to the economy and additional restrictions on sales at certain times in some schools. Competitive food and beverage policies have been in place for decades as a result of strong state standards, with increased nutrition standards for competitive foods in cafeterias and vending launched about six years ago. Because Mississippi law requires that a meal be purchased in order to purchase an extra item, unlike in many of the districts studied, losses in profit on competitive foods cannot be offset by increases in participation in the reimbursable school meal program.

The district uses a variety of strategies to support and promote the healthier foods; there is a strong focus on compliance enforcement from the district by limiting what cafeterias can purchase, to foods included on a district-developed



bid list, and monitoring by district staff. In addition, there is a focus on student engagement and promotion, through taste testing, including offering choices on the lunch line, and occasionally offering tastes right on the lunch line so that students can determine whether to include a new item on their tray; these strategies have the added benefit of reducing plate waste. Marketing, such as the district’s “food of the month” initiative, is another strategy Jackson Public Schools use to encourage students to eat the healthier items on offer. A key barrier to offering healthy foods cited by the district was the increasing cost of food.

### Competitive Foods and Beverages Sold

	NO	YES
Regular soft drinks such as Coke/Pepsi	✓	
Fruit-based drinks that are composed of less than 50% fruit juice	✓	
Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C	✓	
Sweetened teas, such as Snapple	✓	
Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)		✓
Energy drinks like Red Bull or Monster	✓	
Whole fat milk	✓	
Candy (for example, chocolate bars or sugar-coated jelly candies)	✓	
Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)	✓	
Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)	✓	
Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?	Self-operating	

### Food Service Profits

Across all food service accounts, profits are similar or down slightly. Because of a requirement that a meal be purchased in order to purchase other foods, the offsetting effect of increased reimbursable meal participation that occurred in other districts isn’t relevant in the case of Jackson Public School District. Student participation in the school lunch program has remained at similar levels following implementation of stronger competitive food and beverage nutrition standards, according to Food Service Director Mary Hill. Both “extra sales” (Mississippi’s term for foods sold à la carte in the lunch line that may be added to a purchased lunch) and



reimbursable school meal revenues are part of the overall food service budget; profits from “extra sales” have decreased, but are now remaining steady; this is attributed by Food Service Director Hill more to the economy and students having fewer extra resources than to the standards, as well as to operational issues such as how schools implement the extra sales program. The district does encourage schools to promote “extra sales” items in order to increase revenues from that category.

Reflecting on the first six months of implementation of the stronger standards, Food Service Director Hill noted a decline in competitive food and beverage sales that rebounded within one year, although not to original levels. She projected that the current year’s profits from competitive foods and beverages would be similar to last year’s.

## **Implementation Plan: Development, Barriers, and Strategies**

### *Development/Implementation*

Jackson Public School District began strengthening their competitive food and beverage policy beginning in 1986, with more recent revisions in 2006 specifically related to nutrition and vending. In 1986 Mississippi implemented food service regulations that require the purchase of a meal in order to purchase additional foods (known as “extra sales”). This requirement has been in place for decades, and in 2006, stronger standards were imposed regarding the calorie, fat, trans fat, and added sugar content of foods provided in the “extra sales” category and in vending machines. In addition, schools are not permitted to sell competitive items an hour before a meal service period.

The current nutrition policy was developed by the State Board of Education through the formation of a task force. Food Service Director Hill noted that the task force included a variety of individuals from various levels within the district and schools.

Following the development of standards, the district was allowed a three year, incremental transition period. Stakeholders involved in the transition included the Jackson Public School District’s wellness committee, the Food Service Department, and building principals. She emphasized the importance of communication during this period so that key stakeholders understood the required changes and the three year timeframe for implementation.

### *Barriers*

Barriers and concerns of Jackson Public School District are consistent with those of districts and schools included in this study. An increase in food costs following



policy implementation is an ongoing barrier, Food Service Director Hill indicated, as she budgets for production costs like labor and equipment. With increased food costs, she noted that she has to adjust spending accordingly. *“I may earmark x-amount of [a] dollar, but at the same time if those food costs are up I don’t get to buy that equipment,”* she said. Prioritizing the budget is one way she has been able to address this concern and continue to provide students with healthy menu items.

Student preferences and acceptability were cited as both an initial and continuing concern. Food Service Director Hill emphasized that students accepting healthier items is crucial to the success of the food service program since reimbursements and sales rely on them. Students were resistant to the replacement of foods they enjoyed with healthier options they did not relish as much. This preference challenge even extended to one snack that simply transitioned to the whole grain version of the same snack. She takes this issue into consideration when she updates the bid list of foods schools may purchase to sell to students.

### Strategies

Strategies the district utilizes to get students eating healthier include taste testing menu items and offering students the ability to select the

components of their meal, rather than serving them specific items. Jackson Public School District believes students must be involved in change; Food Service Director Hill stated that, *“Their likes and dislikes are most important to us and that’s why we test new products.”* Taste testing helps with ensuring student acceptance of new items and elicits feedback before adding an item to the menu. In addition, offering students items rather than serving them, allows students autonomy in choosing meals they will enjoy. Sometimes with new products, students are able to taste them right in the lunch line before selecting them. Moreover, she said, *“We really believe that if they are allowed to select, the plate waste would really go down and food consumption would go up.”* Although not employed at all grade levels yet, she said she is advocating for the district to transition all students to this service approach.

Controlling and monitoring a bid list of foods and beverages meeting nutrition standards is a key strategy Jackson Public School District uses to ensure compliance with the competitive food and beverage nutrition policy. School cafeterias must use this list when ordering foods which prevents the purchase of less healthy items. Ms. Hill said this works because, *“You don’t have to worry about people using*



Their likes and dislikes are most important to us and that’s why we test new products.

-Food Service Director Mary Hill





*it and saying, 'well I didn't know I needed to use it.'*" Monitoring what is being sold in schools is the second component of ensuring compliance, she indicated. *"I have area supervisors who visit schools almost every day and they know what's in those schools,"* Hill said. These strategies ensure that the nutrition standards are uniformly implemented across the district.

## Vending Contracts

Jackson Public School District does not currently have an exclusive contract with food or beverage distributors. Food Service Director Hill noted vending machine items must meet standards set by the nutrition policy; however, vending machines are under the jurisdiction of principals.

## Marketing and Education

Jackson Public School District has a "food of the month" initiative that includes posters and advertisements as a way of marketing the healthier items. This is reinforced and supplemented by general nutrition information posters in cafeterias encouraging students to select healthy meals. Food Service Director Hill said they also promote special items, *"We've got it highlighted on a menu so we're doing things that will hopefully entice them to participate."*

Nutrition education was also cited as an important factor transitioning students to healthy foods and beverages. Nutrition education, she said, helps the process of change by reinforcing the cafeteria changes and getting the school community talking about them. Hill said, *"Now when we talk about fruits and vegetables, increasing that, they talk about it in the classroom and they see it in the cafeteria."*



Now when we talk about fruits and vegetables, increasing that, they talk about it in the classroom and they see it in the cafeteria.

-Food Service Director Mary Hill



## The Future

There are no plans at this time to change the current nutrition policy. Food Service Director Hill

said the current policy from the state appears to work and will continue to be the policy that is followed. Moreover, in spite of the recent decline in competitive food and beverage profits she commented, *"We want to serve healthy meals and that will be our priority."*

**Bismarck 1  
Public Schools**



<b>District Name</b>	Bismarck 1 Public Schools
<b>State</b>	North Dakota
<b>Grades in District (NCES)</b>	Pre-Kindergarten – 12
<b># of Schools in District (NCES)</b>	22
<b>Superintendent</b>	Tamara Uselman, MA
<b>Food Service Director</b>	Doug Joersz, Food Service Director
<b>District Demographics (NCES)</b>	
Total # Students	11,017
% White Students	88%
% Black Students	1%
% Hispanic Students	0%
% students participating in free-and/or reduced price lunch	22%
<b>Locale (NCES)</b>	City
<b>Census Region</b>	Midwest
<b>State Adult Obesity Ranking (as reported in <i>F as in Fat, 2011</i>)<sup>10</sup></b>	25
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle schools and high schools <a href="#">Board Policy: Physical Activity and Nutrition</a> <a href="#">Administrative Rule: Physical Activity and Nutrition</a>
<b>Persons Interviewed for Case Study</b>	Doug Joersz—Food Service Director Joan Knoll, MS, RD, LRD—District Dietitian Steve Madler—Principal, Century High School Laurie Dakoto—Cafeteria Manager, Century High School Kerry Uhrich—PTA, Century High School Sherry Heaton—Principal, Horizon Middle School Darlene Leingang—Cafeteria Manager, Horizon Middle School Russ Riehl—Principal, Simle Middle School

## Key Findings:

Despite an initial decline in competitive foods profits, substantially strengthening nutrition standards did not result in unsustainable losses. Viewing the issue across all food service accounts, most respondents' reported that profits remained similar to levels prior to implementing stronger competitive food and beverage policies. As time goes on, food service profits from competitive foods and beverages continue to rebound. The district had used the à la carte foods to subsidize the meal program, and with the implementation of the higher standards, changed this approach and implemented more reasonable prices for the meal program.



While not required to, parent teacher associations (PTAs) are more aware of the foods they serve, and include healthier foods and beverages in their food offerings, but do not report a serious financial decline.

Stakeholder engagement, including students and local pediatricians, was a hallmark of Bismarck 1's development and implementation of stronger competitive foods nutrition standards. Rather than incrementally introducing their new standards as reported in other districts, Bismarck 1 implemented them all at once, which initially generated student push back, but students' tastes adjusted over time. This has been facilitated by a number of strategies, including the redesign of cafeterias and lunch lines to make them more like restaurants, and food placement strategies, such as the placement of a "fantastic" fresh vegetable bar that is at the beginning of the lunch line. The variety of other strategies includes student engagement, offering choices and options, and incorporating nutrition education and messaging into the curriculum.

## Competitive Foods and Beverages Sold

	NO	YES
<b>Regular soft drinks such as Coke/Pepsi</b>	✓	
<b>Fruit-based drinks that are composed of less than 50% fruit juice</b>	✓	
<b>Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C</b>	✓	
<b>Sweetened teas, such as Snapple</b>	✓	
<b>Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)</b>	✓	
<b>Energy drinks like Red Bull or Monster</b>	✓	
<b>Whole fat milk</b>	✓	
<b>Candy (for example, chocolate bars or sugar-coated jelly candies)</b>	✓	
<b>Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)</b>	✓	
<b>Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)</b>	✓	
<b>Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?</b>	Self-operating	



## Food Service Profits

Key stakeholders reported that profits from food service department-associated competitive food and beverage sales declined, but when all food service accounts (including the reimbursable school meal program) are considered, most respondents reported that overall profits in schools and at the district level remained similar to levels prior to implementing stronger competitive food and beverage policies. While the general perception is that profits from competitive foods and beverages are unlikely to return to their previous levels, the Child Nutrition coordinator remarked that with a new philosophy focusing on the meals served, the district no longer relies on competitive food sales. Interestingly, the principal at one of the schools reported that it seemed overall profits may have even increased slightly at his school since implementation of stronger nutrition standards.

As Bismarck 1 transitioned to strong nutrition standards for all food and beverages sold during the school day, it was clear to the Child Nutrition Department that they would have to look at profits in a new way. Changing their philosophy, Bismarck shifted from using competitive foods and beverages as a significant source of profits to offering school meals that would better fuel students.

A part of this new philosophy is the greater focus on the school meal program. According to Food Service Director Doug Joersz, prior to strong competitive food standards, *“We used à la carte sales to keep our meal prices artificially low.”*



The financial strength of our program is good because we consequently have offset those à la carte revenue losses.

-Food Service Director Doug Joersz



Offering fewer à la carte items following implementation significantly changed how the department operates. Food Service Director Joersz reported that *“When we knew that we were going to implement this wellness policy, we also understood that it was time to quit relying on à la carte revenue to keep meal prices artificially low. We need to be charging reasonable prices for our reimbursable meals.”*

As a result of the increased prices for meals, he stated, *“The financial strength of our program is good because we consequently have offset those à la carte revenue losses.”* Although he noted that competitive food profits may never completely rebound, he is comfortable with this because of their new, more health-focused philosophy.



Profits associated with food and beverage sales as part of extracurricular activities and PTAs in Bismarck appeared to remain mostly at similar levels following the implementation of the wellness policy, according to respondents. Currently, the district wellness policy only applies to competitive food and beverage items offered during the school day. This may be a reason for the limited impact on profits pertaining to extracurricular activities and PTA events.

Century High School PTA representative Kerri Uhrich indicated that while the PTA is not required to adhere to the wellness policy, it has influenced what types of foods they offer at after-school events. *"I think the parents are aware of issues with kids' diets so we offer a lot more fruits and we'll have bags of carrots at our basketball games and oranges at our volleyball games,"* she said.

### **Implementation Plan: Development, Barriers, and Strategies**

#### *Development/Implementation*

Stronger nutrition standards for competitive foods and beverages were a part of a larger wellness policy developed by Bismarck 1 roughly five years ago. Standards set by new wellness policies, both for competitive foods and beverages and the school meal program, were implemented all at once rather than incrementally.

Various factors, including current childhood obesity rates and federal and state regulations were considered during the development of the wellness policy. Shifting to a culture of healthy eating, Food Service Director Joersz noted, *"Our superintendent believes that food is fuel; it's not a reward,"* providing impetus to the district's efforts to strengthen nutrition standards.

Bismarck 1's wellness policy, including the stronger nutrition standards, was developed through the efforts of a wellness committee that brought together a broad range of stakeholders, including pediatricians, the superintendent, administrators, teachers, parents, and students.

The wellness committee examined what other districts were doing, as well as statistics on childhood obesity, which largely informed the policy development process. Dietitians were also cited as assisting in the development of the wellness policy's nutrition standards to fit Bismarck 1's needs, such as appropriate portion sizes to offer at meal times.

Food Service Director Joersz mentioned that pediatricians played a key role by offering content expertise. Local pediatricians told compelling stories that in-



spired action. *“They had great working knowledge of what they were seeing in their offices,”* which helped inform and move policy development forward. Respondents also commented on the importance of the students’ ideas during development. Principal Russ Riehl of Simle Middle School noted that, *“exploring what students want and what we feel would be appropriate and then trying to bridge that gap,”* was an important component of developing nutrition standards.

### *Barriers*

As Bismarck 1 began implementing stronger nutrition standards, an initial challenge was the time it took for students’ preferences to adjust. Implementing new standards all at once generated pushback from students who missed the former snack items. As a result Food Service Director Joersz said, *“There might have been a slight decrease in participation [in the school meal programs] out of anger and maybe rebellion to some degree.”* As time passes though, students have adjusted to the new options. For example, Principal Sherry Heaton of Horizon Middle School talked about whole grain pizza crusts, saying, *“When that’s all that’s offered and they still want to eat the product and they find out that it’s just as good as any pizza they can buy around town then they will eat that.”*

Century High School’s location creates a particular ongoing barrier when it comes to the success of the stronger nutrition standards. An open campus allows students to leave during lunch periods, allowing access to many of the dining options nearby. Speaking to this issue, Principal Steve Madler stated, *“Even though they’re not buying it here, they run across the street to the convenience store and bring in the Monsters and the Amps and that kind of stuff.”* Unable to police the foods and drinks coming into the building, the close proximity of stores and less nutritious restaurants allows students to continue to choose less nutritious options. Expanding on the issue, District Dietitian Joan Knoll stated, *“They’re high-schoolers and teenagers so, you know I just keep talking about it and educating, but it’s the reality of what they’re going to do. Go buy pop or go leave.”* The availability of less nutritious off-campus foods is a struggle for Century High School as it and the district consider methods to get students to stay on campus for a healthier meal.

### *Strategies*

A novel strategy Bismarck 1 used to maintain profits was redesigning cafeterias in conjunction with rolling out healthier food items. The idea was to make them feel more like restaurants. As Principal Riehl (Simle Middle School) stated, *“making it look more like what a modern-day student might see, you know, as trendy or something [of] that sort.”* With a more welcoming atmosphere, Bismarck 1’s cafeterias are the kind of place where students want to recharge between classes and in the process, get a healthy meal.



The layout of the lunch lines was also changed to facilitate healthy eating. “We have a *fantastic fresh vegetable...bar...[and] that is their first offering,*” Principal Heaton (Horizon Middle School) said. “*That’s the first thing besides picking up their carton of milk and their tray.*” As Heaton explained, putting fresh vegetables first encourages students to select those items, so that by the time they get to competitive food options they already have all they need.

Modeling healthy eating habits also is an important strategy used throughout the district. When students see teachers and school staff eating healthy, the idea is that they will start to make healthier choices on their own. At his school, Principal Riehl noted, “*I think it’s important for kids to see administration and staff down there eating, participating [in healthy behavior].*” With teachers and staff as a part of the implementation process, students learn through observation how to eat healthy. Food Service Director Joersz said he follows the idea that, “*We should try to model behavior that we’re requesting,*” so that students and staff are on the same page with the stronger nutrition standards. Further, modeling healthy eating habits is congruent with teachers’ lessons about nutrition, reinforcing the health curriculum.

Offering students more menu options at lunch is also a key strategy Bismarck 1 uses to get students eating healthier. Horizon Middle School Cafeteria Manager Darlene Leingang said, “*The children do like the choices of more things with having a sub-station line, pizza lines. Two hot entrees, two salad bars. I think it gives them more choices and they like that.*”

When Principal Heaton’s school added the option of a salad bar, she noticed that when “*kids have it available they will eat mounds of lettuce and make great salads and things for themselves.*” Providing more options in the lunch line recognizes the varying tastes of students and allows for them to have control of what they choose for lunch that day.



We have a *fantastic fresh vegetable...bar...[and] that is their first offering. That’s the first thing besides picking up their carton of milk and their tray.*

-Principal Heaton



Additionally, Bismarck 1 values the feedback of their students regarding the cafeteria offerings. The Child Nutrition Department opened up communication with the students through taste testing sessions. Through

testing of menu items, the district is able to evaluate how well received an item will be before offering it throughout the district. Emphasizing the importance of



including students in the menu planning process Food Service Director Joersz said, *“I think they sincerely wanted to have some ownership in the process.”* Taste testing sessions not only assist with menu planning, but create buy-in opportunities for students, further enhancing implementation of strong nutrition standards.

### Vending Contracts

Bismarck 1 currently has an exclusive beverage vending contract that is overseen by the superintendent's office. Since implementing the wellness policy, the contract has been revised to adhere to the policy's nutrition standards. Food Service Director Joersz noted that, *“Our policy kind of dictates what we're going to offer on our machines. Our vending machines...offer nothing but [100%] juice [with no added sugar], and water.”* A consequence of this, though, has been a decline in funds being generated from the vending machines. No longer offering soda, respondents' perceptions were that vendors were seeing fewer sales and commissions from vending machines were down. Despite a perceived decline in sales, no respondents noted a significant change in the district's relationship with the vendor and the general consensus is that major shifts in profits from vending machine competitive food and beverage sales did not have negative long-term effects.

### Marketing and Education

Marketing healthy items has been one method employed by Bismarck 1 to create awareness for new, healthy options on campus. District Dietitian Knoll is responsible for evaluating the nutritional value of menu items offered in the Bismarck 1 district. Additionally, she works to create awareness for better eating by marketing the healthier offerings on the district's menus and regularly highlights the school lunch menu and nutrition in the school newsletters. She also makes sure that new menu items are posted on the district website to create additional opportunities for students and parents to learn about the foods and beverages Bismarck 1 is offering. At the school level, Century High School Cafeteria Manager Laurie Dakoto noted that she uses signs to promote healthy food and beverage choices on campus as well.

Classes also support healthy eating and awareness. Principal Riehl (Simle) emphasized the importance of education in successfully implementing stronger nutrition standards and supporting healthy eating habits in students, saying, *“You can put in all the bells and whistles, but I think you also need to do your health classes, your body management, your weight class, your physical education class, all of those classes.”*

Through education, Bismarck 1 supports the changes in the cafeteria and gives students the tools to make healthy choices. Century High School Principal Steve



Madler noted that with health classes and nutrition education incorporated into other classes, students learn what a healthy diet looks like and applies their learning when eating. Dietitian Knoll also plays a role in educating students by creating and presenting nutrition displays during lunch periods. *“I go in and announce that I’m there and then have a display in the lunchroom and then the kids can come up and look at the display and talk to me about whatever and ask questions,”* she said. This lets Knoll open up communication with students and encourage them in the moment to make a healthy choice.

### The Future

While Food Service Director Joersz noted that the district is satisfied with the strength of their wellness policy and has no plans to further change competitive food and beverage standards, the next step for Bismarck 1 is to expand implementation of their wellness policy to areas not actively being enforced at this time. District Dietitian Knoll reported that the district is working towards implementing healthier classroom celebrations and stocking all vending machines operating after school with items that meet nutrition standards. Moving forward, District Dietitian Knoll stated, *“I feel like this is a really important thing for our kids because the rates of obesity have gotten so much higher and the same with diabetes...it’s worth the work and a little bit of the grumbling and the pushback and the resistance.”*

**Corvallis School  
District 509J**



<b>District Name</b>	Corvallis School District 509J
<b>State</b>	Oregon
<b>Grades in District (NCES)</b>	Kindergarten – 12
<b># of Schools in District (NCES)</b>	13
<b>Superintendent</b>	Dr. Erin Prince, Ph.D
<b>Food Service Director</b>	Sharon Gibson
<b>District Demographics (NCES)</b>	
Total # Students	6,559
% White Students	72%
% Black Students	1%
% Hispanic Students	13%
% students participating in free- and/or reduced price lunch	35%
<b>Locale (NCES)</b>	City
<b>Census Region</b>	West
<b>State Adult Obesity Ranking (as reported in <i>F as in Fat, 2011</i>)<sup>10</sup></b>	31
<b>Secondary School Grade Levels Verified with Strong Competitive Food Policies, SY 2009-10</b>	Middle and high schools Wellness policy available from district
<b>Persons Interviewed for Case Study</b>	Sharon Gibson—Food Service Director Eric Beasley—Principal, Linus Pauling Middle School Alicia Ward-Satey—Assistant Principal, Corvallis High School Cafeteria Manager Galen Hunter—Linus Pauling Middle School Cafeteria Manager Laurie Schrock—Corvallis High School

### Key Findings:

After implementation of stronger nutrition standards, profits on competitive foods made by food and nutrition services at Corvallis School District 509J decreased substantially at first and slowly increased again over two years. However, profits have not returned to original amounts.

A majority of Corvallis School District 509J students pay full price for school meals. As a result, the food and nutrition service department makes a concerted effort to market food and beverage items in the meal program to students in order to maintain sales. The department has made an intensive effort to reach out to parents and garner buy in for the school meal program.



Assistant Principal Alicia Ward-Satey (Corvallis High School) described the community as “a pretty health conscious community, pretty educated community.” Food and nutrition services has access to a scratch cooking kitchen with a bakery, and through a strong farm to school program, access to local produce and education efforts. This program has also started school gardens at several sites.

**Competitive Foods and Beverages Sold**

	NO	YES
Regular soft drinks such as Coke/Pepsi	✓	
Fruit-based drinks that are composed of less than 50% fruit juice	✓	
Other sugar-sweetened drinks, such as Hawaiian Punch or Hi-C	✓	
Sweetened teas, such as Snapple		✓
Regular sports drinks, such as Gatorade or Powerade (not the zero or low-calorie versions)	✓	
Energy drinks like Red Bull or Monster	✓	
Whole fat milk	✓	
Candy (for example, chocolate bars or sugar-coated jelly candies)	✓	
Salty snacks that are not low in fat (such as, regular potato chips or tortilla chips)	✓	
Other snacks that are not low in fat (for example, full-fat cookies/pastries/cakes)	✓	
Are your district food service operations contracted out to a private food service management company (such as Chartwells or Sodexo) or is your food service department self-operating?	Self-operating	

**Food Service Profits**

Corvallis School District 509J began implementing stronger nutrition standards in 2006, with everything in place by the 2008-2009 school year. The food service department reported that competitive food and beverage profits decreased substantially (roughly 20%) in the first six months after stringent nutrition guidelines were implemented. This decline has been especially notable in high schools. The large initial decline in profits was mainly due to ending soda sales. Food Service Director Sharon Gibson said, “that was right off the top, we took a big hit, we removed them across the board...”

Profits have slowly increased but have not yet rebounded back to the pre-implementation levels of 2005. It is important to note that student enrollment has decreased in Corvallis School District 509J since 2005. The smaller number of students enrolled in the school make a complete rebound in competitive foods profits



unlikely, but the exact impact that reduced enrollment has had on competitive foods profits cannot be determined.

Food Service Director Gibson also reported that declines in student enrollment impacted the school meal program because there are fewer students to participate. However, she feels that overall the percentage of students participating in the school meal program remained the same.

The wellness committee is working with the PTA to move towards non-food fundraising. Food Service Director Gibson (a member of the wellness committee) posits that this has decreased overall sales by the PTA; however, this was not confirmed with a PTA representative. This same change was noted for bands, boosters, and athletic clubs that also comply with wellness committee policies. She notes that this is a positive change, as these groups are selling fewer less nutritious snack foods.

### **Implementation Plan: Development, Barriers, and Strategies**

#### *Development/Implementation*

Initially, the district implemented the changes to comply with Oregon's House Bill 2650, state legislation that required that schools incrementally implement healthier beverages and snacks first, then entrees a few years later. This was a challenge at first because food and beverage vendors were not ready to deliver compliant products. Food Service Director Gibson shared, "so our snack bars went from ... having hardly anything in it to more products every single year." Corvallis School District 509J followed this incremental approach to nutrition standards reform; changes began in 2005 and were more or less fully implemented by the 2008-2009 school year.

A steering committee – as part of the wellness committee – is charged with overseeing and ensuring that policies are being implemented. This is perceived to be an important responsibility entrusted to them by the school board.

Principal Eric Beasley at Linus Pauling Middle School notes that the school has a culture that values health, "It's something that's part of the culture here. Corvallis is a very sustainably-focused town, conscientious in a lot of ways."

#### *Stakeholders*

The Oregon Department of Education organized meetings with food service directors at the state and school district level to initiate changes to wellness policies. At Corvallis School District 509J, a district wellness committee was formed in 2005, consisting of administrators and a school representative from each school (e.g., the food service managers). The process of engaging food-service staff in devel-



oping the wellness policy and nutrition standards educated them, and elicited their buy in. The wellness committee meets quarterly.

The food and nutrition department noted that parental and community support is essential to the success of the meal program. Food Service Director Gibson advised that *“You need to listen to what the community has to say, and get their buy in...food that has nutritional value is more expensive, and will students and parents pay more for healthy food that costs more? And what we heard back is ‘sure, we’ll pay more.’”*

### Collaborations

Corvallis School District 509J has collaborated with the Corvallis Environmental Center, as well as a local grocery store to promote the school district’s tasting tables and school menus. The business prints school menus with nutrition education messaging in English and Spanish in full newspaper size, in exchange for advertising space at the bottom.

Food Service Director Gibson has been with the department for 17 years and has been involved in all of the changes. She leads with input from staff and stu-

*“I have monthly meetings with my managers and get their input, what’s working what’s not working, new ideas, what they’ve heard from students. My managers are very important to me for what we’re serving and how we’re serving it.”*



*I have monthly meetings with my managers and get their input, what’s working what’s not working, new ideas, what they’ve heard from students. My managers are very important to me for what we’re serving and how we’re serving it.*

*-Food Service Director Sharon Gibson*



### Barriers

Corvallis School District 509J had initial concerns about loss in profits with stronger nutrition standards. With a low proportion of free- and reduced-price lunch participants, constraints on costs are not related to federal reimbursement rates. With parents very interested in improving the nutritional quality of the food served in the district, the food service department was reassured that they would support increased prices. However, the district was reluctant to make a dramatic increase and preferred to increase prices incrementally. *“Of course the paid parents, they right away said ‘We’re ok, up the price!’...but it’s not really that simple, but it’s gradual, I mean, I do a nickel here, a nickel there,”* Food Service Director Gibson stated.



Further, the high schools in Corvallis have open campuses, which means the food and nutrition services has to compete with fast food restaurants in close proximity. Assistant Principal Ward-Satey (Corvallis High School) said, *“our proximity to fast food and other outlets of less nutritious foods that teenagers want...it’s hard to pull kids in to buy items that may be higher quality...the kids are able to walk there during lunch and get them.”* One factor that has helped is a shorter lunch hour, which has resulted in fewer students going off campus. Assistant Principal Ward-Satey noted that this change was not intentionally implemented to address students going off campus.

### *Strategies*

The district worked closely with vendors to find creative ways to sell healthier food and beverage items to students. This involves attractive packaging, the most current products, and always keeping a variety of options available. Food Service Director Gibson said, *“We go to a lot of food shows to find out what’s new. New products always sell right off the bat.”* Food services regularly tests new products with students to gauge acceptance. Another way the district food service creates variety is through its bakery, where fresh baked items are created from local produce for students. Bakers use creative techniques, such as replacing sugars with oils and applesauce, to create healthy, locally-sourced food items.

Food and nutrition services uses price incentives as well, pricing fresh fruit less expensively than other snacks, and water is discounted relative to other bottled drinks.

At Corvallis High School, the cafeteria was redesigned to be more appealing to students. The seating arrangements, food line flow, and presentation of salad bars were all improved; this resulted in more students entering the cafeteria area.

Principal Beasley (Linus Pauling Middle School) reports that the school is acting as a model for healthier lifestyles in the foods offered, as well as the health information presented in class. Part of this effort involves offering rewards that don’t involve candy and junk food. He says, *“we’ve found other creative ways, we’ll sometimes have dodge ball games on Fridays, we’ll have a hat day, we have other kinds of celebrations...instead of just giving kids junk food for good behavior.”*

Lastly, Corvallis School District 509J teachers work to model healthy behaviors. When sodas were initially removed from the district, they were also taken out of staff lunchrooms. Food Service Director Gibson recalls that this was difficult for staff, who were used to having soda readily available. However, the district felt this was the best way to model healthier behaviors for the students. Since then, the district has worked with vendors to select creatively marketed beverage items



We've found other creative ways, we'll sometimes have dodge ball games on Fridays, we'll have a hat day, we have other kinds of celebrations...instead of just giving kids junk food for good behavior.

-Principal Eric Beasley



that adhere to the nutrition standards. Small details, like the color of the bottles, can make healthier beverages attractive to students.

## Vending Contracts

The district does not have vending contracts with any food or beverage companies. They did not have any contracts prior to stronger nutrition standards.

## Marketing and Education

There is a strong marketing presence in Corvallis School District 509J due to the low percentage of students eligible for free- and reduced-price meals. This means the district reaches out to parents to maintain profitability of the school meal program. Most students can afford to purchase any foods they like (both middle school and high schools have open campuses), thus the department had to make an effort to cater to student and parent needs and tastes while remaining compliant to the nutrition standards. Part of this effort involves surveying students and community members, as well as direct advertising of new products.

The district markets local produce to encourage consumption of fruits and vegetables in part through the farm to school program at the district. The district also directly markets in schools, forms partners in the community, and surveys the community to understand how to obtain buy in. Food and nutrition services makes a concerted effort to offer foods that are appealing and convenient. According to Food Service Director Gibson, *"We do lots of pre-made salads and have those right up front, so if kids are in a hurry and they run in that's what catches their eyes. So we make sure they're colorful and presentable, marketing is big."*

As part of the tasting table strategy, the department provides nutrition curriculum kits to teachers. This curriculum introduces the students to the local farmer, the color of the fruit or vegetable, and other nutrition information. The farm to school program has been instrumental in these activities.



Another strategy employed was a partnership between food and nutrition services and the farm to school coordinator to create educational tools and menu items. The partners display posters and advertisements about a featured fruit or vegetable item, set up tasting tables, and other educational activities. The farm to school coordinator has started gardens in a few schools which have been a big success, generating significant enthusiasm among the students. The tasting tables – more in elementary and middle schools – have successfully introduced new fruits and vegetable items to students.

Finally, part of the marketing effort includes the district website, which is updated regularly with nutrition education, nutritional information about menus, and links to the Oregon Department of Education.

### **The Future**

The food and nutrition director is continuously looking for new recipes for the meal program. Some ideas come from the purchasing co-op to which the district belongs and others from students and staff. State and federal policies, in the form of nutrition standard requirements, will be a major catalyst in continuing to implement improvements in nutrition standards.

# Appendix A

## Competitive Foods in K-12 Schools: A Review of the Literature

### Literature Review

A comprehensive literature review was performed to identify and provide an overview of studies that have evaluated the impact of implementing stronger competitive food and beverage standards on school revenues and/or profit in U.S.-based K-12 public schools. Relevant literature, including peer-reviewed articles, state reports, research briefs, pilot/intervention studies, case reports, and dissertations/theses were identified by performing literature searches in PubMed, CINALH, EMBASE, ERIC, PAIS, EconLit, DAI, and web-based searches using Google Scholar and Google, from 1995 to the present. Key word searches included combinations of the terms such as “school,” “public,” “economics,” “revenue,” “cost,” or “finance,” and “food,” “beverages,” “competitive,” “vending,” “à la carte,” “NSLP participation,” “school store,” or “fundraising.” Relevant studies are presented in Table A-1 at the end of this Appendix.

### Summary of Findings

The literature points to consistent results of the impact of stronger nutrition standards on competitive food profits and/or revenues. Despite initial concerns, the literature shows that the majority of schools have not lost revenue and/or profit after implementing stronger competitive food and beverage standards. While there may be declines in sales from à la carte/snack sales, this is typically offset by greater school meal participation rates, resulting in increased meal sales, with increases typically large enough to compensate for the reduction in à la carte sales. Schools that completely eliminated competitive food sales tended to see the greatest increases in school meal participation rates, and schools with a greater proportion of students eligible for free- and reduced-price lunch were more able to offset decreases in à la carte sales. Furthermore, studies examining vending contracts have shown that vendors have significant control over selection, placement, and accessibility of competitive foods sold, at the expense of the schools and their students. Vending contracts raise very little funds for schools compared to the overall school budget. Lastly, stakeholder involvement (e.g., tastetesting, student/parent satisfaction surveys), nutrition education, marketing, promotion, and pricing strategies have been cited as key factors in helping schools to successfully make the shift to implementing healthier competitive food and beverage standards. The following sections summarize the literature in this area.

### Impact of Competitive Food Regulations on School Profit

Given the recent economic challenges to school budgets, school administrators have expressed concern regarding the impact of replacing competitive foods with healthier alternatives on school revenue and/or profit.<sup>16, 18-20</sup> Many schools depend on profit from competitive foods to support school programs, and do not wish to put these programs in jeopardy. At the same time, the health and nutritional needs of students should not be compromised. However, such effects



of implementing stronger competitive food standards on school profit are often unclear, due to limited research in this area.

Many of the studies to date have focused on measures of revenue rather than profit. This potential flaw in the research may not provide an accurate picture of financial outcomes following implementation of stronger nutrition standards; as the associated costs (e.g., labor, equipment, and other miscellaneous expenses) have not been accounted for.<sup>21</sup> To compound this issue, many schools do not keep reliable or detailed data concerning the impact of competitive food changes on sales revenue.<sup>20</sup> As an example, a 2006 review of vending machine revenue in Utah's public schools revealed significant inconsistencies in accounting records among schools, a lack of centralized record-keeping, as well as a wide range of revenues from school to school.<sup>22</sup>

While on the surface, competitive foods may appear to be an important source of revenue for schools and food service operations, a few studies indicate otherwise. A study sponsored by the USDA found that, on average, revenue from the sale of competitive foods during the 2005-2006 school year covered only 71% of the reported cost of providing such food; subsequently, revenue from subsidized reimbursable meals are often used to offset losses from competitive foods.<sup>23</sup> This also raises concern, as subsidies intended to provide balanced meals to low-income children are being redirected to offset the cost of competitive foods. In light of these findings, *Section 206 of the Healthy Hunger Free Kids Act of 2010* added a provision [effective for the 2012 school year] requiring all non-reimbursable meal foods sold by school food service to generate revenue at least equal to their cost.<sup>7</sup>

Furthermore, research suggests that competitive food sales are associated with a negative impact on school food service profits, and that school officials should examine competitive food profits, not revenue, to assess the full cost of competitive sales—including any associated reduction in reimbursable school meal sales.<sup>24</sup>

### **The Impact of Competitive Food Regulations on School Revenue/Profit and School Meal Participation Rates**

Several peer-reviewed studies<sup>13, 14, 28, 29</sup> examining the impact of implementing stronger nutrition standards on school revenue and/or profit have shown that lost revenue/profit from restricting the sale of competitive foods may be offset by additional revenue/profit from overall increase in students' participation in federal meal programs (free, reduced, and paid). The following section highlights studies that evaluated changes in revenue/profits following implementation of stronger nutrition policies. Furthermore, studies reporting changes in NSLP participation rates, a commonly reported finding as a consequence of changes in nutrition policy, are also addressed in this section.



Between January and June of 2010, School Nutrition Dietary Assessment IV<sup>25,26</sup> was conducted by the USDA Food and Nutrition Services. Web-based surveys were administered to a nationally representative sample of public school food service directors that participated in the NSLP, to assess school food authority (SFA)-level policies and practices related to menu planning, à la carte foods, food purchasing, food safety and sanitation, nutrition promotion, and school wellness policies.

During the 2009–2010 school year, schools collected an average of \$925 per 1,000 students in revenue from sales of à la carte foods and beverages per week. Average weekly revenue from à la carte sales in middle and high schools was roughly three times higher than in elementary schools (\$1,618 and \$1,647 per 1,000 students, respectively, versus \$495 per 1,000 students). Furthermore, there was an inverse relationship between à la carte revenue and NSLP participation. For schools with high (80 percent) daily NSLP participation rates, average weekly à la carte revenue was \$466 per 1,000 students. Conversely, schools with less than 40 percent daily NSLP participation rates, average weekly à la carte revenue was \$1,503 per 1,000 students.<sup>25,26</sup>

Average weekly revenue from à la carte sales was lower for schools located in urban and rural areas than for schools in suburban areas (\$782 and \$703 per 1,000 students, respectively, versus \$1,141). Schools located in areas with lower levels of child poverty had higher weekly à la carte revenue on average than schools in areas with higher levels of child poverty (\$1,067 per 1,000 students versus \$641). These patterns were similar across all grade levels.<sup>25,26</sup>

The HEALTHY study, a three-year randomized, cluster-designed trial conducted in 42 middle schools at seven field centers from five states, followed students from the start of 6th grade in the fall of 2006 to the end of 8th grade in the spring of 2009.<sup>27</sup> The schools selected had at least 50% of students who were eligible for free- and reduced-price lunch or who belonged to a minority group. Half of the schools were randomly assigned to the HEALTHY intervention which consisted of four integrated components: nutrition, physical activity, behavioral knowledge and skills, and social marketing. The nutrition component consisted of changes to the school breakfast and lunch program, as well as à la carte foods and beverages served, including offering à la carte foods with lower fat content, limiting calories (<200 calories for desserts and snacks), and eliminating milk greater than 1% fat and all other added sugar beverages. Revenue and expense data (including food costs, labor, supplies, and central kitchen costs) were collected from income statements, federal meal records, à la carte sale sheets, school store sale sheets, donated money/food records, and vending machines. At the end of the study, a greater proportion of intervention compared to control schools had reached the nutritional goals set by the HEALTHY study; however,



revenues and expenses were not significantly different between groups. Furthermore, there was a trend, for intervention schools to have higher excess revenue over expense than control schools over the 3-year study (\$3.5 and \$2.4 million, respectively).

A recent 2012 study, using national survey data (School Nutrition Assessment-III), collected during the 2004-05 school year, examined competitive food revenues through food service (*i.e.*, à la carte and vending machines revenues); however, they did not examine non-school food service vending revenues.<sup>12</sup> A sample of 128 elementary schools and 234 secondary schools were included in the study. Sales of à la carte items made up the bulk of school food service competitive food revenues, with relatively little from vending revenues. There were a wide range of revenues obtained amongst schools, with some obtaining virtually no revenue and others earning hundreds of thousands of dollars annually through food services. The majority of elementary schools obtained no or very low levels of revenue from competitive foods and beverages compared to secondary schools. Approximately one-quarter of elementary schools sold no competitive foods and 44% sold milk only. The availability of competitive foods, and thus food service revenues, tended to be greatest in both elementary and secondary schools in more affluent districts serving fewer free- and reduced-price lunches, with lower USDA school meal participation, and higher standard full price meals. Furthermore, schools with higher competitive foods revenues had lower school meal participation rates. Thus, increasing meal participation can help offset declines in competitive foods revenues following implementation of stronger nutrition standards. Open campus policies did not seem to follow a consistent pattern of association with revenue levels.

Another 2012 study evaluated the change in school meal participation and revenue in 56 California public high schools prior to (2006-07 school year) and immediately following (2007-08 school year) implementation of the California competitive food standards; Senate Bill 12 set limits on fat, sugar, sodium, and calories for competitive foods sold in secondary schools and limits on the types of competitive beverages (Senate Bill 965) that could be sold during the school day.<sup>13</sup> Types and nutrient composition of competitive foods and beverages sold through food service à la carte, vending machines, school stores, and other venues (such as coffee carts and taco trucks) were collected and analyzed, along with school meal participation rates, meal revenues, and revenues/expenditures for various venues on campus outside the food service department. Food and beverage compliance with the established state legislation increased significantly from 64.2% to 71% for beverages and from 40.9% to 65.7% for food. School meal participation rates increased both for free- and reduced-price meals (by 13% and 16% for breakfast and lunch, respectively) and full-priced meals (by 31% and 20% for breakfast and lunch, respectively). Interestingly, while students eligible for free- and reduced-



price meals had higher participation rates, most dramatic changes occurred in full-priced meal participation rates. While there was a small but non-significant decrease (18%) in average sales from à la carte foods, from \$0.45 to \$0.37 (per student per day), this was compensated by a significant (23%) increase in average meal revenue, from \$0.70 to \$0.86 (per student per day), demonstrating that stronger nutrition policies (at the high school level) do not negatively influence overall food service revenues, when decreases in à la carte sales are offset by increases in school meal participation.

Three earlier California studies, the Healthy Eating, Active Communities study (HEAC), the High School Study (HSS), and the School Wellness Study (SWS), assessed different aspects of implementation and impact of these nutrition standards and its impact on school revenue.<sup>14</sup> Documentation of available foods and beverages, detailed monthly breakdowns of meal participation, and food and beverage revenues from school food service and a sampling of other sales venues was obtained one full year prior to implementation (corresponding to the 2006 school year) and one full year following implementation (corresponding to the 2008 school year). On-line food service surveys and hour-long guided school wellness team interviews were also conducted prior to and after implementation of the state competitive food and beverage standards.

Availability of nutrition standard-compliant foods and beverages increased, while the availability of noncompliant items decreased (with the biggest reductions in availability of sodas and other sweetened beverages, regular chips, and candy) as assessed in 19 schools (6 elementary, 6 middle, and 6 high schools). Food and beverage sales decreased at most venues, including vending machines, snack bars and stores, and school fundraisers (financial data only available from five schools) and à la carte sales decreased at a majority of schools (financial data for à la carte sales only available from 10 schools). However, meal sales increased at all schools, with increases large enough to compensate for the reduction in à la carte sales, such that all schools experienced an increase in total revenues. However, it is important to note that the school food service bottom line deteriorated by an average of \$0.18 per student per day during this time period, due to increased food service expenses (largely attributed to rising food and beverage prices and providing healthier meal options) outpacing revenue increases. Beyond the financial implications, food service surveys, highlighted several benefits as a result of the healthier competitive food standards, including increased student acceptance of healthier options and improved communication with parents and community members.<sup>14</sup>

Another California study, conducted by the University of California, Berkeley, Center for Weight and Health, pilot-tested the impact of state level nutrition standards for competitive foods in 5 high schools and 15 middle schools (as part of the Linking Education, Activity and Food Program and another study funded by



the National Institutes of Health and the California Endowment).<sup>15</sup> Only findings from food service sales were evaluated, as complete financial data was not available for other venues that sold competitive foods and beverages. Total revenues increased at the majority of schools due to increases in meal revenues that more than compensated for any losses in competitive food and beverage sales.

Thirteen of 20 schools experienced an increase in revenue greater than 5% (meal and competitive foods combined), with increases in revenue ranging from \$20 to \$143 per student per year. Only 2 schools experienced declines in overall revenues greater than 5%. Schools that completely eliminated competitive food sales by the food service department tended to see the greatest increases in school meal participation. Of note, schools with less students eligible for free- and reduced-price lunches tended to receive less financial gain, due to lower school meal participation rates, minimal reimbursement for full priced meals, and competition from outside vendors.<sup>15</sup>

In another California pilot study, researchers evaluated the effects of implementation of a progressive nutrition policy regulating fat, sugar, and portion size of items sold at San Francisco Unified (SFUSD) schools on school revenue and students' participation in school lunch programs.<sup>16</sup> During the 2002-03 school year, Aptos Middle School, the first school to implement the nutrition policy, helped to establish a baseline for the overall district. School revenue and lunch participation data from the 2002-03 school year (before district-wide implementation of the nutritional changes) was retrospectively compared with data from the 2003-04 school year (after district-wide implementation of the changes) for both Aptos Middle School and the SFUSD as a whole (compiled data on profits was not available from school nutrition services).

Two months after less nutritious foods were phased out, in May of 2003, Aptos Middle School generated more than \$2,000 in revenue (which included revenues from à la carte/snack bar sales, as well as reimbursements from federal and state free and subsidized breakfasts and lunches, and operational and other expenses). The increase in revenue was explained by greater overall participation in the NSLP.

During the 2003-04 school year, when all schools in the district adopted the healthier nutrition standards, there was a mean overall increase in sales (from the previous year, prior to implementation of the nutrition policy), which was directly related to an overall increase in students' participation in the federal lunch program (free, reduced, and paid), even with declines in revenue from à la carte/snack sales. One of the factors attributed to increased school meal participation rates was credited to soliciting student input through the polling of students' food preferences.

In Connecticut, food service directors from all school districts participating in the NSLP (N = 151) were surveyed about the availability of competitive foods offered before and after the 2006-2007 implementation of Connecticut's Healthy Food Certification (HFC).<sup>28</sup>

Both school districts participating (n=74) and those not participating (n=77) in the HFC, on average, reported a reduction in the number of less nutritious à la carte snack categories offered from baseline; however, HFC participation was related to a significantly greater decline in less nutritious categories. NSLP participation increased from baseline to year 1 across elementary, middle, and high schools among those participating and not participating in HFC. Increases in NSLP participation were most pronounced for paid meals at all school levels, with participation for free- and reduced-price meals significant only at the middle school level. Regardless of HFC status, NSLP participation rates were substantially lower among older students.

More recently, Bhatia et al. demonstrated gains in NSLP participation in 3 SFSD middle and high schools after removal of competitive à la carte lunch offerings during the 2009-10 school year.<sup>29</sup> In fact, participation in the NSLP after the intervention was greater than combined participation in the NSLP and à la carte program prior to the intervention, suggesting that à la carte offerings may be a detriment to NSLP participation. The increase in NSLP participation observed was attributed to the removal of competitive lunch choices (i.e., à la carte items), efforts to increase the diversity and quality of meal offerings, including a point-of-service payment system, and the elimination of different standards of food service for subsidized and unsubsidized students.

Thus, de-emphasizing competitive foods in favor of school meals may result in increased school meal participation rates and may also reduce any stigma felt by free- or reduced-price students from selecting USDA meals. Replacing less-healthy competitive items with healthier options could also help maintain school food service revenues.

### **Barriers to Implementation of Stronger Nutrition Standards and Strategies to Overcome Such Barriers**

There are many challenges schools face during their process of transitioning to healthier food choices. The most common challenges reported are budget constraints, student acceptance, cost of "healthier" products, and district reluctance to implement changes.<sup>30</sup> The following case- and peer-reviewed studies identify barriers reported by schools and school districts to implementing strong wellness and/or nutrition policies.



In 2006, Action for Healthy Kids conducted over 2900 online surveys, focus groups, and key informant interviews (including superintendents, school district stakeholders, parents and community members, and state agency professionals), representing 1296 school districts across the nation. Adequate funding was the number one barrier cited to effective school wellness policy development, implementation, and monitoring, followed by competing priorities/lack of time, and the need to educate and gain the support of key non-staff stakeholders, including students, parents, and the community.<sup>31</sup>

Between 2006 and 2008, interviews were conducted with key stakeholders including superintendents, food service directors, teachers, parents and others involved in the development of their school district wellness policy, following the state mandate (Senate Bill 5436) requiring all public schools to develop a nutrition and fitness policy by the start of the 2005-06 school year. Representatives from 28 Washington school districts (from 64 middle schools) were asked about barriers and challenges they faced in implementing their wellness policies. Almost all districts reported the following barriers to implementing the district wellness policy: threat of decreased revenue to the school from vending machines and school stores, confusion about nutrition standards and what foods meet the new policies, threat of decreased revenue from parent and student groups that sell food to raise funds, threat of decreased revenue from school food services, and student complaints. Most districts reported the following barriers: lack of product availability, existing vending or pouring contracts, and concern about the burden of an unfunded mandate from the state. About half of districts reported the following barriers: vending companies' compliance, complaints from parents, and complaints from food service workers.<sup>32</sup>

### Pricing Strategies to Increase Sales of Healthier Items

Earlier intervention studies<sup>33-35</sup>, conducted prior to the implementation of the congressionally-mandated local school wellness policies during school year 2006-07, demonstrated that lower pricing and greater promotion of low-fat snacks and fruits and vegetables are effective in changing adolescent behaviors.

A food pricing intervention in 5 Pueblo City High Schools in Colorado was conducted from February 2007 through May 2007, across all competitive venues (including à la carte sales, vending machines, and school stores). Prices of more healthy foods were lowered and prices of less healthy foods raised. Several key findings were identified as key to successfully making this transition: 1) *communication* (i.e., providing information to school staff, parents, and students about the price change in a clear, precise and timely manner); 2) *universal implementation* (i.e., price changes should be implemented evenly across all formal and informal food sale venues to avoid confusion and discontent among staff and students); 3) *food selection* (i.e., it is important to take into consideration student preference

and offer healthy options in the same portion size and of a comparable nature as less healthy items; and 4) *grounding the implementation policy* (i.e., making sure the policy is mandated, especially given competing fundraising pressures).<sup>36</sup>

During the 2005-06 school year 15 participating school districts in Mississippi agreed to change beverage selections to include more healthful items (defined as water, 100% fruit juices, and sports drinks) and limit unhealthful items (sugar sweetened soft drinks and other non-nutritive beverages) to no more than 50% of vending machine slots or school store shelves. Twelve of the 15 schools reported increased profits from the previous year, while offering more healthful choices.<sup>37</sup> Sales of soft drinks declined when sports drinks, 100% fruit juice, and water were made available and priced lower than soft drinks.

### STATE LEVEL REPORTS AND STUDIES

According to CDC, 39 states have laws or policies governing what types of competitive foods may be sold in schools through vending machines, school stores, à la carte sales in the cafeteria, and/or in-school fundraisers.<sup>38</sup> To evaluate efforts of school districts in implementing such laws, along with their impact on school and/or school district-level practices, several states have conducted state-wide evaluations. These state-wide evaluations commonly include surveys and/or structured interviews with key stakeholders, along with collection of financial data (i.e., revenue/profits) for foods sold through food services and competitive venues, when available.

In **Arizona**, in order to determine the financial implications of implementing the Arizona Model Nutrition Policy (ARS 15-242), eight pilot schools (four elementary schools and four junior high and/or high schools) received a mini-grant of \$5,000 to \$10,000 for their participation.<sup>18</sup> As part of the grant, each school was required to implement the most current version of the Arizona Model Nutrition Policy by the fall semester of 2004. Financial data, including total revenue, reimbursement, wages, food costs, and all other indirect costs, was requested for à la carte, vending, and other foods from the participating pilot schools. Financial data (i.e., profits gained/loss) was collected two to three months prior to and four months following model policy implementation. Implementing the model nutrition policy resulted in improved quality of meals served, along with competitive foods sold through vending machines and school stores. Furthermore, schools offering competitive foods through vending machines, à la carte, or school stores showed no negative financial impacts after making healthy changes to foods served and sold in schools.

In 2003, **Arkansas** passed legislation (Act 1220) that included, among other things, a provision requiring: 1) limits on types of competitive foods and beverages sold in Arkansas secondary schools, 2) prohibition of student access to competitive



foods in all Arkansas elementary schools, and 3) disclosure of schools' contracts with food and beverage companies, including public reporting of expenditures and revenues from district vending contracts (of note, a specific reporting format has not been identified, nor a mandate that reports be submitted to/or compiled by the Arkansas Department of Education).<sup>39</sup>

Researchers at the Fay W. Boozman College of Public Health at the University of Arkansas for Medical Sciences, funded by the Robert Wood Johnson Foundation, have conducted yearly evaluations to assess the impact of Act 1220 in public schools throughout Arkansas. The most recent Year 7 report (corresponding to the 2010-11 school year) summarized key findings from interviews with key informants, including school principals, school district superintendents, school nurses, and staff of the Arkansas Departments of Health and Education.

Principals reporting revenues from vending machines as important to their overall school budget declined steadily from 58% in 2004 to 47% in 2010, suggesting that schools may be beginning to find alternatives to relying on vending revenues. The percentage of school superintendents who reported that the district had a vending contract also declined steadily from 80% in 2004 to 63% in 2010. All superintendents and most principals interviewed supported vending changes, despite lost revenues. One principal stated, "*We did need the money, but it [sugary beverages] wasn't the way we needed to raise it.*" Most principals and superintendents reported completely removing vending machines or restricting the beverage machines to juice, water, milk, and diet sodas.

In **Kansas**, à la carte sales (represented as the percent of revenue generated from à la carte as a function of total foodservice revenue) were evaluated during 2007-08 using secondary data obtained for 93% of Kansas rural and urban/suburban school districts (n=282).<sup>40,41</sup> Data came from two existing sources: 1) The 2007-08 Kansas Report Card, which provides district level demographic information, and 2) the 2007-08 Annual Financial Report for School Nutrition Programs, submitted annually to Kansas State Department of Education for districts to maintain funding for their school meals program. The researchers found that federal and state contributions of funds to support the school lunch program was not adequately adjusted for inflation, thereby forcing many schools to continue to sell or to expand their à la carte offerings to help make up the deficit created by declining financial support. Furthermore, they found that rural districts were 2.4 times more likely than urban/suburban districts to have low to moderate à la carte sales, higher lunch prices, greater school lunch participation rates, lower per meal costs, and fewer students eligible for the free-and reduced-priced lunch program.

In 2005, **West Virginia** passed the “Healthy Lifestyles Act” (House Bill 2816) as a means to address high rates of childhood obesity in their state. Implementation of the Act began in August 2006.<sup>19</sup> A comprehensive evaluation of the implementation of this Act began in the spring of 2007. As part of the evaluation, surveys were administered and received from superintendents (N=56), principals (N=586), school nurses (N=214), physical education teachers (N=398), and health care practitioners (N=147). Semi-structured interviews were completed with 8 principals (3 elementary, 1 middle, 4 high schools) and 5 superintendents, distributed across the state, to provide additional context for the survey responses. Interviews were conducted with students (N=420) in grades 5, 7, and 9, and parents (N=1500) in grades 2, 5, 7, and 9.

Superintendents and principals indicated extensive and at times “heated” discussions and complaints associated with the impact of replacing less healthy beverages with healthier beverages on school revenue. For instance,

*“The sale of soft drinks brought in general fund money to use for discretionary purchases by the school office to off-set curriculum materials not provided by the central office...Teachers still bring soft drinks from home to consume at lunch so the only loser is the school.”*

*“It [Healthy Lifestyles Act] eliminated a major source of general fund income... Parents still send soft drinks and junk food in children’s lunch boxes.”*

*“The budget will be greatly reduced. The needs of the students and staff will not be adequately served. Every county funds differently, however all schools must participate in fund raising to supplement revenue...The school is a community center and the community has many expectations and it requires extra revenue to fulfill those expectations.”*

Despite such initial concerns expressed by the school community, more than 80% of principals surveyed reported stable or increased revenues when they switched to healthy beverages such as milk and water after implementing West Virginia’s Healthy Lifestyle Act. Some principals anticipated an initial loss, but no long term impact. Additionally, 61% of parents interviewed believed that only healthy beverages should be offered to students in school vending machines, while 34% of parents and 54% of students indicated that both healthy and less healthy beverages should be available. It is important to note that because the school year was still in progress when the evaluation was conducted, definitive data on school revenues were not available.

### NATIONAL CASE STUDY PROJECTS

*Making It Happen! School Nutrition Success Stories*, a joint project of USDA's Team Nutrition and CDC's Division of Adolescent and School Health (DASH) shared stories from 32 schools and school districts across the United States (in 2005) that implemented innovative strategies to improve the nutritional quality of foods and beverages sold outside of federal meal programs.<sup>42</sup> Of the 17 schools and school districts that reported income data, 12 increased their revenue and four reported no change.

More recently (2010), the Alliance for a Healthier Generation identified key strategies that have helped schools maintain or increase revenue while integrating healthier competitive food and beverage standards.<sup>30</sup> In April and May of 2010, representatives from 3 schools and 4 school districts were interviewed after responding to surveys conducted by the Alliance on competitive foods and school meals and/or identified by the Healthy Schools Program with a Bronze or Silver award. Telephone interviews with teachers, food service directors, principals, school nurses, cafeteria managers, and nutrition specialists were conducted with the aim of collecting information on the process enabling schools to transition to healthier foods and strategies that allowed them to remain financially neutral or to experience a positive shift in revenue. Responses from interviews were then compiled into individual case studies to highlight key strategies used to improve school nutrition while maintaining school revenue.

Key strategies that were noted as instrumental to schools in making this shift included: 1) student engagement (e.g., taste testing, student focus groups), 2) nutrition education, 3) staff involvement, 4) strategic integration of healthy items (either at the start of the school year or gradually throughout), 5) parent involvement, 6) marketing and pricing strategies, and 7) utilization of outside resources, such as technical assistance, to procure local agricultural products and partnerships with community programs. Of note, it was not uncommon for some schools or school districts to see an initial decline in revenue after initial implementation of stronger standards and then to rebound as students became more accepting of the new foods.<sup>28</sup>

### Pouring Rights Contracts

While many schools may initially resist changes to sales of competitive foods due to fear of loss of revenue, competitive beverage contracts may actually not be as lucrative as they think. A national study, conducted by the Center for Science in the Public Interest (CSPI), analyzed 120 school beverage contracts from school districts in 16 states, in 2004. On average, beverage contracts generated \$18 per student/year (ranging from \$0.60 to \$93 per student/year) and the average contract length was 5 years.<sup>43</sup>



Schools districts earn revenue through: 1) commission on beverage sales, 2) lump sum cash advances, and 3) non-cash benefits (scoreboards, computer software, scholarships, athletic uniforms and equipment). Many times, financial incentives are tied to profit, and contracts include penalties when a school fails to meet sales quotas or wishes to terminate a contract.

The overall message: *beverage companies, rather than schools, benefit from such contracts.* They found that common contract provisions stipulate that vending machines must be turned on at all times (except vending machines containing foods of minimal nutritional value and within the cafeteria when meals are served, as required by USDA regulations.) Nearly all (93%) contracts were with a single company with exclusive advertising rights, thought to cultivate brand loyalty and lifetime customers. For every dollar that a student spent on beverage sales, the majority (\$0.67) of revenue went back to the beverage companies, with only a small proportion (\$0.33) benefiting schools. The average total revenue to school/districts under a single contract was \$98,667. The median total annual revenue to schools/districts under a single contract was \$27,691. To put it into perspective, students at Austin Independent School District, Texas spent \$504,000 during the 2004-05 school year on vending machines, but the schools only received \$90,000 of the proceeds.

These findings are consistent with other studies that demonstrate vendors have significant control over product selection, placement, and accessibility at the expense of students.<sup>22, 44</sup> Between May and October of 2004, telephone surveys of 25 school districts throughout Oregon were conducted to evaluate a sample of soda contracts in Oregon public schools. They found that compared to the larger school finance picture, vending contracts raised relatively little funds for schools; less than half a percent of annual district per-student spending (between \$12 to \$24 per student annually).

In 2005, a review of vending machines in Utah's public schools was conducted by the Office of Legislative Auditor General of the State of Utah. Initially, revenue data was requested from all 40 Utah school districts through phone, on-site interviews, and email contacts. However, most revenue data was not available at the district level, and had to be requested by individual schools within those districts. Ultimately, a sample of 71 schools from 13 school districts, representing a total of 81,040 students, was selected. They found that the use of vending machines was primarily a local or school-based activity, with widely varied accounting procedures, and relatively little oversight at the district level. Furthermore, some schools' revenue data did not show precisely how vending revenues were spent, while some schools' revenues were commingled with other school revenues (e.g., General Administrative Account) and did not always directly benefit students. In addition to contract provisions, school administrators cited several school-specific factors (e.g., open or closed lunch policies, enrollment size, proximity to fast food restaurants or convenience stores) as playing a role in school vending revenues.<sup>22</sup>



Most recently, SNDA-IV <sup>25,26</sup> reported that more than one-fourth of SFAs (27 percent) had a pouring rights contract during the 2009-10 school year. Most SFAs reported having pouring rights contracts across all schools in their district, with 63 percent of those contracts limited to beverages sold in food service areas. Twenty-seven percent of food service directors with pouring rights contracts reported that revenue went to the school foodservice account, while 39 percent of SFAs reported revenue going to individual school accounts. Nineteen percent of SFA directors were not sure where the revenue went.

**Table A-1. K-12 studies included in literature review**

K-12 Studies Included				
Author (year)	Sample	Change in Competitive Foods	Outcome	NSLP Participation
Guthrie et al.(2012) <sup>12</sup>	A national sample (N=128 elementary schools) and N=234 secondary schools)	Not Addressed	Sales of à la carte items made up the bulk of school food service competitive food revenues, with relatively little from vending revenues. There were a wide range of revenues obtained amongst schools, with some obtaining virtually no revenue and others earning hundreds of thousands of dollars annually through food services. Schools with higher competitive foods revenues had lower school meal participation rates.	Not Addressed
Treviño et al. (2012) <sup>12</sup>	(N= 42) middle schools across 5 states	HEALTHY intervention: changes to the school breakfast and lunch program, offering lower fat à la carte foods and beverages, limiting calories, eliminating milk greater than 1% fat, and all other added sugar beverages.	There was a trend for intervention schools to have higher excess revenue over expense than control schools over the 3-year study.	Not Addressed
Peart et al. (2012) <sup>13</sup>	(N=56) California high schools	Implementation of California legislation governing foods and beverages sold/served at school	Non-significant decrease in à la carte sales revenue	Increased
Bhatia et al. (2011) <sup>29</sup>	3 pilot school (2 high; 1 middle) in San Francisco USD, CA	Removed à la carte, expanded lunch menu options (including salad bars)	Increased school meal participation rates	Increased
Nollen et al. (2011) <sup>40</sup>	All Kansas Public K-12 school districts (N=302)	Compared rural and urban/sub-urban district with low and high à la carte sales	Districts with low à la carte sales had higher lunch prices and lunch participation, lower per lunch costs and à la carte quality, and served fewer free-and reduced-price lunches compared to districts with high à la carte sales.	Not Addressed
Peterson (2011) <sup>24</sup>	Observations from 344 Minnesota public school districts between 2001-2008 (N=2,695)	Not Addressed	Small but significant negative association between competitive food revenue and reimbursable school meal revenue, as well as overall food service profit	Not Addressed
Long et al. (2010) <sup>28</sup>	Surveys of food service directors of all Connecticut districts participating in the NSLP (N=151)	Implementation of the Connecticut Healthy Food Certification Standards	Reduced availability of unhealthy à la carte snack foods	Increased



K-12 Studies Included				
Author (year)	Sample	Change in Competitive Foods	Outcome	NSLP Participation
Woodward-Lopez et al. (2010) <sup>14</sup>	3 studies; (N= 99) schools	Implementation of California legislation governing foods and beverages sold/served at school	Decreased à la carte sales	Increased
Brown et al. (2009) <sup>37</sup>	(N=15) Mississippi School districts	More healthful drinks (water, 100% juice, and sports drinks) in vending machines and school stores	12 out of 15 schools reported increased profits when combined with pricing incentives	Not Addressed
Wojcicki et al. (2006) <sup>16</sup>	Aptos Middle School (N=859 students)	San Francisco USD Nutrition Policy	Increased revenues from à la carte/ snack bar sales, and reimbursable school meals	Increased
State Reports				
Arizona Pilot Study (2005) <sup>18</sup>	(N=8) pilot schools (4 elementary schools and 4 junior high and/or high schools)	Arizona Model Nutrition Policy (ARS 15-242); set limits on competitive foods and beverages sold at school.	No changes in overall revenue	Not Addressed
Year Seven Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity (2010) <sup>39</sup>	Arkansas Public Schools	Impact of Act 1220 of 2003; set limits on types of competitive foods and beverages sold at school	Less reliance on vending revenue to overall school budget	Not Addressed
Center for Weight and Health, University of California Pilot Study(2005) <sup>15</sup>	(N=20) 15 middle and 5 California high schools	Implementation of California legislation governing foods and beverages sold/served at school	Thirteen of 20 schools experienced an increase in revenue greater than 5% (meal and competitive foods combined); 2 schools experienced declines in overall revenues greater than 5%.	Schools that completely eliminated competitive food sales by the food service department tended to see the greatest increases in school meal participation
Financial Impact of À la Carte Offerings in Kansas Public Schools (2010) <sup>41</sup>	(N=282) 93.4% Kansas public school districts	Compliance with Kansas State-wide Wellness Policy which sets limits on fat, calories, and sugar	Rural districts are 2.4 times more likely than urban/suburban districts to have low to moderate à la carte sales, higher lunch prices, greater school lunch participation rates, lower per meal costs, and fewer students eligible for the free- and reduced-priced lunch program.	Not addressed
West Virginia Healthy Lifestyles Act: Year One Evaluation Report <sup>19</sup> (2009)	Surveys from superintendents (N=56), principals (N=586), school nurses (N=214), physical education teachers (N=398), and health care practitioners (N=147)	Impact of West Virginia Healthy Lifestyles Act (HB 2816); set limits on competitive foods and beverages sold at school	80% of principals surveyed reported stable or increased revenues when they switched to healthy beverages.	Not addressed
Other Reports				
USDA FNS, SNDA IV: Vol I, Vol II (2012) <sup>25,26</sup>	Nationally representative sample of food service directors (N=578); food service managers (N=876); and principals (N=721)	N/A	An inverse relationship between à la carte revenue and NSLP participation; Average weekly revenue from à la carte sales was lower for schools located in urban and rural compared to suburban, and lower for schools with higher levels of childhood poverty compared to lower levels.	N/A



K-12 Studies Included				
Author (year)	Sample	Change in Competitive Foods	Outcome	NSLP Participation
Johanson et al. CSPI Report (2006) <sup>43</sup>	(N=120) beverage contracts from 16 states	N/A	On average beverage contracts generated \$18/student/year (ranging from \$0.60 to \$93/student/year) and the average contract length was 5 years.	N/A
Office of Legislative Auditor General State of Utah Report (2006) <sup>22</sup>	(N=71) schools from 13 Utah school districts	N/A	Estimated vending revenues was \$3.25-3.75 million for fiscal year 2005	N/A
The Government Accountability Office (GAO-05-563) (2005) <sup>20</sup>	(N=80,000) public schools nationwide that participate in the NSLP	N/A	School district revenue could not be determined due to unclear and unreliable data concerning the impact of competitive food changes on sales revenues. Limited data suggests varied effects of healthful items on revenues across 6 districts visited.	N/A
Pinson. School Soda Contracts: A Sample of Review of Contracts in Oregon Public School District (2004) <sup>44</sup>	(N=25) Oregon school districts	N/A	Districts received less than half a percent of annual district per-student spending (between \$12 to \$24 per student annually) from soda contracts	N/A
Case Reports				
AFHG. Key Strategies for Maintaining Revenue While Changing School Foods for the Better: Case Studies (2010) <sup>30</sup>	(N=4) school districts and (N=3) schools	Limited access to competitive foods; more healthful foods and beverages available	2 school districts increased revenue, 1 remained stable, and 1 did not sell competitive foods; 1 school increased revenue and 2 schools remained stable	Increased
CDC. Making it Happen: School Nutrition Success Stories (2005) <sup>42</sup>	(N=32) schools/school districts across the U.S.	Limited access to competitive foods; more healthful foods and beverages available	12 schools/school districts increased revenue and 4 reported no change	Reported increases in some schools/school districts
Pricing Strategy Studies				
CDC Pueblo City Study (2007) <sup>36</sup>	(N=5) Pueblo City high schools	Lowered prices of more healthy foods, raised prices of less healthy foods	Not Addressed	N/A
French et al. (2004) <sup>34</sup>	(N=20) secondary schools	Increased availability of lower-fat foods and implemented student-based promotions	Increased availability and purchase of lower-fat items	N/A
French et al. (2001) <sup>33</sup>	(N=12) secondary schools	Pricing and promotion strategies of low-fat snacks from vending machines	Price reductions of 10%, 25%, and 50% on low-fat snacks were associated with significant increases in low-fat snack sales; percentages of low-fat snack sales increased by 9%, 39%, and 93%, respectively.	N/A



K-12 Studies Included				
Author (year)	Sample	Change in Competitive Foods	Outcome	NSLP Participation
French et al. (1997) <sup>35</sup>	2 High Schools; (N=1,431 and N=1,935) students, respectively	Pricing and promotion strategies of fruits and vegetables	Lowering the price of fruits and vegetables resulted in an increase in sales of these foods without a decrease in total revenue.	N/A
<b>Review</b>				
Wharton et al. (2008) <sup>21</sup>	4 peer-reviewed papers and 3 state-based reports	N/A	A systematic review of the literature suggests that most schools do not experience any overall losses of revenue.	In some schools, there was increased participation in the NSLP after the intervention, which might compensate for revenue losses.

# Appendix B

## Nutrition in Early Childhood Settings: A Review of the Literature

### Early Childcare Literature Review Methods

A comprehensive literature review was performed to identify and provide an overview of the types of competitive foods and beverages that are readily available in early-childhood settings (including center-based care programs, such as child-care centers, preschools, and Head Start programs; home-based non-relative care; and relative care). Relevant literature, including peer-reviewed articles, state reports, research briefs, pilot/intervention studies, case reports, and dissertations/theses were identified by performing literature searches in PubMed, CINALH, EMBASE, ERIC, PAIS, EconLit, DAI, and Google Scholar and Google searches from 1995 to the present. Key word searches included combinations of the terms such as “school,” “public,” “economics,” “revenue,” “cost,” or “finance,” and “food,” “beverages,” “competitive,” “vending,” “à la carte,” “NSLP participation,” “school store, or “fundraising.” Relevant studies are presented in Table B-1 at the end of this Appendix.

### Summary of Findings

Healthy eating behavior and positive role-modeling have the potential to prevent obesity early in life, and subsequently into adolescence and adulthood. However, child care licensing regulations remain highly variable across states, with several states defaulting and solely utilizing the USDA Child and Adult Care Food Program (CACFP) Meal Patterns as their regulations on nutrition recommendations. While there has been recent progress in some states governing regulations in early childcare centers, there is clearly room for improvement. At the local level, most centers surveyed reported serving foods recommended by national guidelines, including adequate amounts of fruits, vegetables, whole grains, 100% juice, and low-fat milk, while few reported serving sugary drinks (e.g., soda, sports drinks, kool-aid). However, practices that tended to be less likely addressed across child care centers included: non-food holiday practices, non-food rewards, written guidelines to parents for food brought from home, limiting sugary snacks (with the exception of candy, which was rarely served), and access to free drinking water throughout the day. CACFPs generally served more healthful foods and beverages compared to non-CACFP sites. Thus, improving policies and practices at the federal, state, and local level are essential steps to achieving the goal of reducing childhood obesity. The following sections summarize the literature in this area.

### Early Childhood Centers

Approximately 21% of children aged 2 through 5 years in the United States are classified as either overweight or obese (BMI for age > 85th percentile).<sup>45</sup> Exposure to nutritious foods and positive adult role modeling at an early age may help shape nutrition related behaviors later in life.<sup>46, 47</sup> Approximately 80% of children under 6 years old not yet enrolled in kindergarten, with employed mothers, are in

some form of non-parental primary care arrangement.<sup>48</sup> However, few studies to date have focused specifically on foods and beverages available in child care centers and highlight the need for stronger nutrition standards at the federal, state, and local level.

In 2011, the Institute of Medicine (IOM) was instructed by the USDA to recommend revisions to the CACFP meal requirements based on the most recent Dietary Guidelines for Americans.<sup>49</sup> This also included specific recommendations for daily morning and afternoon snacks. Over the course of a week, for all children aged one and over, the IOM recommends 2 servings of fruit, 1 serving of an orange vegetable, 1 serving of a non-starchy vegetable, 2 servings of grain/bread, 2 servings of lean meat or meat alternate, and 2 servings of low-fat or non-fat milk. Snacks high in solid fats, added sugars (fruits and juices must be free of added sugars), trans fats, and sodium are to be limited.

Furthermore, *The Healthy, Hunger-Free Kids Act of 2010* included a provision requiring participating child care centers and family or group day care homes to make available to children, as nutritionally appropriate, potable water as an acceptable fluid for consumption throughout the day, including at meal times.<sup>7</sup> The law also states that no later than January 1, 2012, the Secretary shall issue guidance to States and institutions to encourage participating child care centers and family or group day care homes serving meals and snacks under this section to—“(i) include foods that are recommended for increased serving consumption in amounts recommended by the most recent *Dietary Guidelines for Americans*, including fresh, canned, dried, or frozen fruits and vegetables, whole grain products, lean meat products, and low-fat and non-fat dairy products.<sup>50</sup> The 2010 Dietary Guidelines recommend that persons over 2 years of age consume low-fat (1%) or fat-free (skim) fluid milk.

Child care arrangements in the US may be classified as 1) center-based care programs, which include child-care centers, preschools, and Head Start programs, 2) home-based non-relative care, and 3) relative care. Center-based care programs and family child-care homes that are licensed or approved to provide services may be eligible to receive federal support for the meals and snacks through the CACFP. More than 3.2 million young children receive up to 2 meals and a snack that meet USDA nutritional standards through CACFP.<sup>51</sup> For some participants this may provide over half a day's calories.<sup>48</sup> Centers and family homes that receive federal funding from the CACFP must follow regulations for meals and snacks served according to the nutrition standards set by the USDA.<sup>52</sup>

Furthermore, child care licensing is legislated, implemented, and enforced at the state level. Meals and snacks served in child care centers fall under such state regulations; however, strength and comprehensiveness of these regulations vary

greatly by state. In 2011 the National Resource Center for Health and Safety in Child Care and Early Education conducted a national assessment of child care licensing regulations in all 50 states and the District of Columbia.<sup>53</sup> The study examined documents for licensed child care centers, large or group family child care homes, and small family child care homes. Regulations were assessed (on a 4-point scale; 1 = contradict, 2 = do not mention, 3 = partially meet, and 4 = meet the components) for obesity prevention related terminology in 3 main content areas: 1) infant feeding, 2) nutrition, and 3) physical activity/screen time. Documents were examined for applicability to each of three types of out-of-home child care evaluated in this assessment.

Twelve states achieved more than 40% of ratings, indicating that their state licensing regulations included high impact obesity prevention language (rating = 3). More than half of the 2010 ratings indicated that no, or insufficient, obesity prevention terminology was found in states' child care regulations for all three major types of licensed child care facilities studied. Only a small percentage of ratings (13%) indicated full representation of high impact obesity prevention terminology. Delaware and Mississippi tied for the best-rated obesity prevention rules in the nation. Distribution of ratings was nearly equal across all child care types, with slightly fewer study variables addressed in regulations governing small family homes.

Twenty-one variables were addressed specifically in the topic area of nutrition (e.g., permitting/encouraging small-sized, age-appropriate portions, limiting dietary fats, sugar, and sodium, water availability, wholesomeness and quantity of juice). Seven states had at least 75% scores of 3-4 high scores (Arizona 86%, Illinois, Mississippi, and West Virginia 81%; Florida, Rhode Island, and South Dakota 76%). A total of 38 states (including the seven previously mentioned), achieved greater than 50% 3-4 high scores, and 2 states had no regulatory language that promoted best practices in nutrition. The substantial ratings of  $\geq 3$  was due to 31 states' requirements minimally aligning with CACFP or MyPyramid meal patterns (MyPyramid was in place at the time that the study was conducted rather than the current, MyPlate).

The highest frequency of ratings = 1 (*low compliance*) was obtained for the variable *avoid sugar, including concentrated sweets such as candy, sodas, sweetened drinks, fruit nectars, and flavored milk*. The majority of ratings = 1 were in states requiring adherence to CACFP, without additional language (since as of January 1, 2011, the current CACFP requirements allow yogurt, sweetened or unsweetened, to meet all or part of the meat/meat alternate requirement). The highest rated subgroups were *water availability* and *age and individual nutritional requirements*. Each of these subgroups achieved more than 75% of their ratings of states' regulations  $\geq 3$ .

The subgroups *limit dietary fats* and *limit sugar and salt* each had more than 50% ratings of 2, indicating little mention in the states' regulations for fat, salt, or sugar. The subgroup *limit sugar and salt* had the highest percentage of ratings = 1. Individual variables that were most often contradicted in regulations were *avoid sugary foods*, *serve no juice before 12 months of age*, and *offer whole fruit vs. juice* for infants ages 7-12 months.

The mid-range subgroups *serve nutrient-dense whole foods*, *wholeness and quantity of juice*, and *misuse of food* had the highest percentage of 3 ratings. The individual nutrition variable with the highest frequency of 3 ratings was *not using food as a reward or punishment*. There were also varying degrees of 4 ratings for these subgroups, indicating that state regulations are doing a better job focusing their attention in this area.

The nutrition subgroup with the highest frequency of 4 ratings was the subgroup that addressed *age and individual nutritional requirements*. However, this high percentage of excellent ratings is largely due to requirements for adherence to CACFP meal patterns. The single nutrition variable receiving the most ratings = 4 was *requiring serving small age-appropriate portions*. While many states have regulations governing food and beverages available in child care centers, albeit with varying degree of strength and comprehensiveness, few studies have evaluated whether such policies translate to practices at the local level.

A recent 2012 study examined the obesogenic practices in all-day child-care centers in Oklahoma. A cross-sectional self-reported survey was completed by 314 child-care centers across Oklahoma.<sup>54</sup> Items where the majority of centers frequently reported best practices included: daily fruits served (76%), daily nonfried vegetables served (71%), rarely/never serving sugary drinks (92%), rarely/never using food to encourage good behaviors (88%), staff joining children at the table most of the time (81%), staff rarely eating different foods in view of children (69%), visible self-serve or request availability of water (93%), and regular informal communication about healthy eating (86%). Practices less likely to be addressed included: increasing variety of vegetables (18%), reducing frequency of high-fat meats served (74% serve more than once per week), increasing high-fiber and whole-grain foods (35% offer daily), serving style of "seconds" (28% help kids determine whether they are still hungry), and nonfood holiday celebrations (44% use nonfood treats).

D.C. Hunger Solutions partnered with Altarum Institute to evaluate 25 child care centers in the District of Columbia (21 of which participate in the federal CACFP) between August and September of 2009.<sup>55</sup> The evaluation consisted of a survey about nutrition and physical activity related policies and practices completed by the center director or other appropriate center staff members, followed by an in-person interview to obtain more in-depth information using a standard, semi-structured interview tool with standard lead questions and probes, and lastly an obser-

vational assessment of the center using a physical infrastructure observation tool adapted by the study researchers. The majority of centers provided children with adequate amounts of water, fruits and vegetables, whole grains, meat and protein sources, and milk and dairy foods, while limiting sugar-sweetened beverages, salty snacks, and desserts. However, few centers served the recommended amount of milk, and few centers served low or fat-free milk. In addition, many centers served fried, high-fat, and other processed meat items on a regular basis.

During the 2005-06 school year, surveys were administered to directors of 40 child-care centers in three underserved New York City communities (Central Brooklyn, East/Central Harlem, South Bronx) and in Manhattan.<sup>56</sup> Director surveys included questions about places where beverages and foods are purchased; people in charge of purchasing beverages and foods; on-site food sources, such as availability of vending machines; and selection of beverages and foods offered to children. On-site visits to the centers were made to observe food and beverages consumed by 240 3- and 4-year olds.

Almost all centers provided beverages and foods recommended by national guidelines, including reduced-fat milk, 100% fruit juice, and whole grains. Some centers also provided higher-fat milk and sugar-sweetened beverages, but no centers provided soda. Drinking water was available in classrooms at only half of the centers, with drinking water in pitchers at tables during mealtime only at 3 centers.

Head Start is the largest federally funded early child care education program in the United States, serving close to a million at-risk preschool age children.<sup>57</sup> Between February and April 2008, Whitaker et al. surveyed directors of all 1,810 head start programs in the United States.<sup>58</sup> Of those that responded (87%), 70% reported serving only nonfat or 1% fat milk. Ninety-four percent of programs reported that each day they served children some fruit other than 100% fruit juice; 97% reported serving some vegetable other than fried potatoes. Sixty-six percent reported either using healthy foods or non-food treats for holiday celebrations or special events, such as birthdays. Nearly all (99%) reported never serving sugary drinks, such as Kool-Aid, sports drinks, sweet tea, punch, or soda.

Family child care homes (FCCHs) are the second-largest provider of child care in the US. A stratified sample of registered FCCHs operating in Kansas (N=297) were surveyed to assess policies and practices related to nutrition using the Nutrition and Physical Self-Assessment for Child Care (NAPSACC) instrument.<sup>59</sup> Most centers provided adequate servings of fruits and vegetables, healthy fruit and vegetable preparation practices, access to free drinking water, and infrequent servings of fried foods, high-fat meats, sweets, snack foods, and sugary drinks. However, less than 14% reported serving low-fat or skim milk regularly, more than half used less nutritious foods and beverages for celebrations, and less than 20% had written guidelines to provide to parents for food brought in for holidays or birthday celebrations.

Researchers in California surveyed 1,400 randomly selected child care sites throughout California (with a total of 429 surveys returned and analyzed).<sup>60</sup> Key stakeholders were surveyed to gauge opinions regarding the benefits and challenges of offering healthy foods and beverages in their centers. The child care sites were divided into various categories, including those that participated in CACFP and those that did not. Survey responses revealed that sites participating in CACFP generally served more healthful foods and beverages (e.g., fruits and vegetables) than non-CACFP sites. They also found that centers (compared to home-based care) tended to serve lower fat milk (whereas home-based care tended to serve more whole milk) and had better access to water, while serving less than 100% juice and less sweetened drinks. Candy was rarely served across all sites; however, other kinds of sweets (e.g., ice cream, popsicles, frozen yogurt, sweetened cereals, pastries) were more commonly served (about 20% of sites), with Head Starts reporting serving the fewest sweets and snack type foods compared to centers and homes.

Greater than 50% of sites did not have vending machines and reported not using food as a reward or serving “traditional” foods at parties. Greater than 50% of sites had written policies on foods and beverages, but less than 50% had policies on promoting healthy foods or on foods brought from home. Barriers to providing more nutritious foods were high costs (57%), children’s dislikes (48%), lack of control over food service (18%), and inadequate room for food preparation/storage (15%).

**Table B-1. Child care studies included in literature review**

Child Care Studies Included		
Author (year)	Sample	Outcome
National Resource Center for Health and Safety in Child Care and Early Education (2012) <sup>53</sup>	Child care licensing regulations from 49 states and the District of Columbia	Only 3 states made changes pertinent to obesity prevention in 2011. There were 21 nutrition related variables (7 states had at least 75% high scores; 28 states had at least 50% high scores; 2 states had no regulatory language).
Sisson et al. (2012) <sup>54</sup>	Cross-sectional, self-report survey mailed to child-care centers across Oklahoma (N=314)	<p>Best practices:</p> <ul style="list-style-type: none"> <li>76% daily fruits served</li> <li>71% daily nonfried vegetables served</li> <li>92% rarely/never serving sugary drinks</li> <li>88% rarely/never using food to encourage good behaviors</li> <li>81% staff joining children at the table most of the time</li> <li>69% staff rarely eating different foods in view of children</li> <li>93% visible self-serve or request availability of water</li> <li>86% regular informal communication about healthy eating</li> </ul> <p>Practices less likely to be addressed:</p> <ul style="list-style-type: none"> <li>18% increasing variety of vegetables</li> <li>74% (serve &gt; 1 time/wk) reducing frequency of high-fat meats served</li> <li>35% (daily) increasing high-fiber and whole-grain foods</li> <li>28% serving style of “seconds” (help kids determine whether they are still hungry)</li> <li>44% nonfood holiday celebrations</li> </ul>



## Child Care Studies Included

Author (year)	Sample	Outcome
D.C. Hunger Solutions (2010) <sup>55</sup>	Child care development centers in Washington D.C. (N=26)	The majority of centers provided children with adequate amounts of water, fruits and vegetables, whole grains, meat and protein sources, and milk and dairy foods, while limiting sugar-sweetened beverages, salty snacks, and desserts. Few centers served the recommended amount of milk with few centers serving low or fat-free milk. Many centers served fried, high-fat, and other processed meat items on a regular basis.
Erinosho et al.(2011) <sup>56</sup>	Child care centers in NYC (N=40)	Almost all centers provided beverages and foods recommended by national guidelines, including reduced-fat milk, 100% fruit juice, and whole grains. Some centers also provided higher-fat milk and sugar-sweetened beverages, but no centers provided soda. Drinking water was available in classrooms at only half of the centers, with drinking water in pitchers at tables during mealtime only at three centers.
Whitaker et al.(2012) <sup>58</sup>	Directors of Head Start Programs (N=1,810)	70% reported serving only nonfat or 1% fat milk 94% reported serving some fruit other than 100% fruit juice 97% reported serving some vegetable other than fried potatoes 66% reported either using healthy foods or non-food treats for holiday celebrations or special events 99% reported never serving sugary drinks (e.g., Kool-Aid, sports drinks, sweet tea, punch, or soda)
Trost et al. (2009) <sup>59</sup>	Stratified random sample of family child care homes in Kansas (N=297)	Most centers provided adequate servings of fruits and vegetables, healthy fruit and vegetable preparation practices, access to free drinking water, infrequent servings of fried foods, high-fat meats, sweets, snack foods, and sugary drinks. Less than 14% reported serving low-fat or skim milk regularly, more than half used less nutritious foods and beverages for celebrations, and less than 20% had written guidelines to provide to parents for food brought in for holidays or birthday celebrations.
Hecht et al.(2009) <sup>60</sup>	Survey of randomly selected child care centers in California (N=429)	CACFP generally served more healthful foods and beverages (e.g., fruits and vegetables) than non CACFP sites. Centers (compared to home-based care) tended to serve lower fat milk (whereas home-based care tended to serve more whole milk) and had better access to water, while serving less than 100% juice and less sweetened drinks. Candy was rarely served across all sites; however, other kinds of sweets (e.g., ice cream, popsicles, frozen yogurt, sweetened cereals, pastries) were more commonly served (about 20% of sites), with Head Starts reporting serving the fewest sweets and snack type foods compared to centers and homes. Greater than 50% of sites did not have vending machines and reported not using food as a reward or serving “traditional” foods at parties. Greater than 50% of sites had written policies on foods and beverages, but less than 50% had policies on promoting healthy foods or on foods brought from home.

# Appendix C

## Bibliography



1. Story M. The third School Nutrition Dietary Assessment Study: finding and policy implications for improving the health of US children. *JAMA*. 2009; 109(2): S7-S13.
2. Johnston LD, O'Malley PM, Terry-McElrath YM, Colabianchi N. *School Policies and Practices to Improve Health and Prevent Obesity: National Secondary School Survey Results: School Years 2006–07 through 2009–10*. Volume 2. Ann Arbor, MI: Bridging the Gap Program, Survey Research Center, Institute for Social Research; 2012.
3. Categories of Foods of Minimal Nutritional Value, 7 C.F.R. § 210 app. B (2012).
4. Belansky E, Chriqui JF, Schwartz MB. Local School Wellness Policies: How Are Schools Implementing the Federal Mandate? Robert Wood Johnson Foundation Research Brief; 2009.
5. Chriqui JF, Schneider L, Chaloupka FJ, et al. *School District Wellness Policies: Evaluating Progress and Potential for Improving Children's Health Three Years after the Federal Mandate. School Years 2006–07, 2007–08 and 2008–09*. Volume 2. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago. [http://www.bridgingthegapresearch.org/research/district\\_wellness\\_policies/](http://www.bridgingthegapresearch.org/research/district_wellness_policies/). Published August 2010. Accessed January 15, 2013.
6. Chriqui JF, Resnick E, Schneider L, et al. *School District Wellness Policies: Evaluating Progress and Potential for Improving Children's Health Five Years after the Federal Mandate. School Years 2006–07 through 2010-11*. Volume 3. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago. [http://www.bridgingthegapresearch.org/research/district\\_wellness\\_policies/](http://www.bridgingthegapresearch.org/research/district_wellness_policies/). Published February 2013. Accessed March 1, 2013.
7. U.S. Department of Agriculture, Food and Nutrition Service. National School Lunch Program and School Breakfast Program: Nutrition Standards for All Foods Sold in School as Required by the Healthy, Hunger-Free Kids Act of 2010. Proposed Rule. *Fed. Reg.* 78(27): 9530-9567.
8. Bridging the Gap Program. District Wellness Policies. [http://www.bridgingthegapresearch.org/research/district\\_wellness\\_policies/](http://www.bridgingthegapresearch.org/research/district_wellness_policies/).

9. Schwartz MB, Lund AE, Grow HM, et al. A comprehensive coding system to measure the quality of school wellness policies. *J Am Diet Assoc*. 2009; 109(7): 1256-1262.
10. F as in FAT: How Obesity Policies are Failing America, 2011. Trust for America's Health 2011.  
<http://healthyamericans.org/reports/obesity2011/>.  
Published July 2011. Accessed September 21, 2012.
11. Cognitive Interviewing and Questionnaire Design: A Training Manual, by Gordon Willis (Working Paper #7, National Center for Health Statistics, March 1994).
12. Guthrie JF, Newman C, Ralston K, Prell M, Ollinger M. Understanding school food service characteristics associated with higher competitive food revenues can help focus efforts to improve school food environments. *Child Obes*. 2012; 8(4): 298-304.
13. Peart T, Kao J, Crawford PB, Samuels SE, Craypo L, Woodward-Lopez G. Does competitive food and beverage legislation hurt meal participation or revenues in high schools? *Child Obes*. 2012; 8(4): 339-346.
14. Woodward-Lopez G, Gosliner W, Samuels SE, Craypo L, Kao J, Crawford PB. Lessons learned from evaluations of California's statewide school nutrition standards. *Am J Public Health*. 2010; 100(10): 2137-2145.
15. Pilot Implementation of SB 19 in California Middle and High Schools: Report on Accomplishments, Impact, and Lessons Learned. Berkeley, CA: Center for Weight and Health, University of California, Berkeley; 2005.
16. Wojcicki JM, Heyman MB. Healthier choices and increased participation in a middle school lunch program: effects of nutrition policy changes in San Francisco. *Am J Public Health*. 2006; 96(9): 1542-1547.
17. Centers for Disease Control and Prevention. Communities Putting Prevention to Work. Media, Access, Point of Decision, Pricing and Support (MAPPS).  
[http://www.cdc.gov/chronicdisease/recovery/PDF/MAPPS\\_Intervention\\_Table.pdf](http://www.cdc.gov/chronicdisease/recovery/PDF/MAPPS_Intervention_Table.pdf).  
Accessed February 2, 2013.
18. Arizona Healthy School Environment Model Policy Implementation Pilot Study. Phoenix, AZ: Arizona Department of Education; 2005.
19. West Virginia Healthy Lifestyles Act: Year One Evaluation Report. Morgantown, WV: West Virginia University, Robert C. Byrd Health Sciences Center, Health Research Center; 2009.



20. U.S. Government Accountability Office. School Meal Programs: Competitive Foods Are Widely Available and Generate Substantial Revenues for Schools. Report no. GAO-05-563. Washington, DC: Government Accountability Office; 2005.
21. Wharton CM, Long M, Schwartz MB. Changing nutrition standards in schools: the emerging impact on school revenue. *J Sch Health*. 2008; 78(5): 245-51.
22. A Review of the Use of Vending Machines in Public Schools. Salt Lake City, UT: Office of Legislative Auditor General State of Utah; 2006.
23. Bartlett S, Glanz F, Logan C. School Lunch and Breakfast Cost Study-II, Final Report. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research, Nutrition and Analysis; 2008.
24. Peterson C. Competitive foods sales are associated with a negative effect on school finances. *J Am Diet Assoc*. 2011; 111(6): 851-857.
25. Fox MK, Condon E, Crepinsek MK. *School Nutrition Dietary Assessment IV, Vol I: School Foodservice Operations, School Environments, and Meals Offered and Served*. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis; 2012.
26. Hall J, Zeidman E, Crepinsek MK, Condon E. *School Nutrition Dietary Assessment Study IV, Vol. II: Sampling and Data Collection Methods*. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Office of Research and Analysis; 2012.
27. Treviño RP, Pham T, Mobley C, Hartstein J, Ghormli LE, Songer T. HEALTHY Study School Food Service Revenue and Expense Report. *J Sch Health*. 2012; 82(9): 417-423.
28. Long MW, Henderson KE, Schwartz MB. Evaluating the impact of a Connecticut program to reduce availability of unhealthy competitive food in school. *J Sch Health*. 2010; 80(10): 478-486.
29. Bhatia R, Jones P, Reicker Z. Competitive foods, discrimination, and participation in the National School Lunch Program. *Am J Public Health*. 2011; 101(8): 1380-1386.
30. Key Strategies for Maintaining Revenue while changing school foods for the better: Case Studies. Alliance for a Healthier Generation; 2010.



31. Agron P, Berends V, Ellis K, Gonzalez M. School wellness policies: perceptions, barriers, and needs among school leaders and wellness advocates. *J Sch Health*. 2010; 80(11): 527-35.
32. Barriers to School Wellness Policy Implementation, Brief VI. Seattle, WA: University of Washington Center for Public Health Nutrition. Policy Legislation and Nutrition (PLAN); 2009.
33. French SA, Jeffery RW, Story M et al. Pricing and promotion effects on low-fat vending snack purchases: the CHIPS Study. *Am J Public Health*. 2001; 91(1): 112-117.
34. French SA, Story M, Fulkerson JA, Hannan P. An environmental intervention to promote lower-fat food choices in secondary schools: outcomes of the TA COS Study. *Am J Public Health* 2004; 94(9): 1507-1512.
35. French SA, Story M, Jeffery RW et al. Pricing strategy to promote fruit and vegetable purchase in high school cafeterias. *J Am Diet Assoc*. 1997; 97(9): 1008-1010.
36. Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health. A Food Pricing Intervention in Pueblo City Schools. <http://www.cdc.gov/healthyyouth/evaluation/rapid/projects/co-pueblo.htm>. Updated January 13, 2011. Accessed February 10, 2013.
37. Brown DM, Tammineni SK. Managing sales of beverages in schools to preserve profits and improve children's nutrition intake in 15 Mississippi schools. *J Am Diet Assoc*. 2009; 109(12): 2036-2042.
38. Merlo C, Galic M. Competitive Foods and Beverages in U.S. Schools: A State Policy Analysis. Weight of the Nation Conference. Washington D.C.; May 2012.
39. Year Seven Evaluation Arkansas Act of 1220 of 2003 to Combat Childhood Obesity. Little Rock, AR: University of Arkansas for Medical Sciences, Fay Boozman College of Public Health; 2011.
40. Nollen NL, Kimminau KS, Nazir N. Demographic and financial characteristics of school districts with low and high à la carte sales in rural Kansas Public Schools. *J Am Diet Assoc*. 2011; 111(6): 879-883.
41. Nollen NL. A Research Brief: Financial Impact of À la Carte Offerings in Kansas Public Schools. Kansas City, KS: University of Kansas Medical Center; 2010.



42. Making It Happen: School Nutrition Success Stories. Alexandria, VA: US Department of Agriculture, Food and Nutrition Service; Centers for Disease Control and Prevention; US Department of Health and Human Services; US Department of Education; 2005.
43. Johanson J, Smith J, JD, Wootan MG. Raw Deal: School Beverage Contracts Less Lucrative Than They Seem. Washington, D.C.: Center for Science in the Public Interest; 2006.
44. Pinson N. School Soda Contracts: A Sample of Review of Contracts in Oregon Public School Districts, 2004. Portland, OR: Community Health Partnership. Oregon's Public Health Institute; 2005.
45. Ogden CL, Carroll MD, Curtin LR, Lamb MM, Flegal KM. Prevalence of high body mass index in US children and adolescents 2007-2008. *JAMA*. 2010; 303(3): 242-249.
46. Cooke L. The importance of exposure for healthy eating in childhood: a review. *J Hum Nutr Diet*. 2007; 20(4): 294-301.
47. Hendy HM. Comparison of five teacher actions to encourage children's new food acceptance. *Annal Behav Med*. 1999; 21(1): 20-26.
48. Early Childhood Program Participation Survey of the National Household Education Surveys Program. Institute of Education Sciences, National Center for Education Statistics. [http://nces.ed.gov/programs/digest/d09/tables/dt09\\_044.asp](http://nces.ed.gov/programs/digest/d09/tables/dt09_044.asp). Accessed August 13, 2012.
49. Murphy SP, Yaktine AL, Sutor CW, Moats S. The Child and Adult Care Food Program: Aligning Dietary Guidance for All. Committee to Review Child and Adult Care Food Program Meal Requirements; Washington D.C.: Institute of Medicine; 2010.
50. U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Dietary Guidelines for Americans*, 2010. 7th Edition, Washington, DC: U.S. Government Printing Office; 2010.
51. United States Department of Agriculture. Food and Nutrition Service. Child and Adult Care Food Program. <http://www.fns.usda.gov/cnd/care/>. Updated January, 11 2013. Accessed August 13, 2012.
52. Requirements for Meals, 7 C.F.R. § 226.20 (2012).
53. Achieving a state of healthy weight: 2011 update. Aurora, CO: National Resource Center for Health and Safety in Child Care and Early Education. University of Colorado Denver; 2012.



54. Sisson SB, Campbell JE, May KB et al. Assessment of food, nutrition, and physical activity practices in Oklahoma child-care centers. *J Acad Nutr Diet.* 2012; 112(8): 1230-1240.
55. Environmental Scan of Nutrition Practices in Child Development Centers in the District of Columbia and Opportunities to Promote Wellness. Washington, D.C.: D.C. Hunger Solutions; 2010.
56. Erinosh T, Dixon LB, Young C, Brotman LM, Hayman LL. Nutrition practices and children's dietary intakes at 40 child-care centers in New York City. *J Am Diet Assoc.* 2011; 111(9): 1391-7.
57. National Head Start Association. Head Start Facts. [http://www.nhsa.org/files/static\\_page\\_files/48BADE30-1D09-3519-ADED347C39FA16A4/Basic Head Start Facts rev02212011.pdf](http://www.nhsa.org/files/static_page_files/48BADE30-1D09-3519-ADED347C39FA16A4/Basic%20Head%20Start%20Facts%20rev02212011.pdf) Accessed August 13, 2012.
58. Whitaker RC, Gooze RA, Hughes CC, Finkelstein DM. A national survey of obesity prevention practices in Head Start. *Arch Pediatr Adolesc Med.* 2009; 163(12): 1144-50.
59. Trost SG. Nutrition and physical activity policies and practices in family child care homes. *Am J Prev Med.* 2009; 37(6): 537-540.
60. Hecht K, Chandran K, Samuels S, Crawford P, Ritchie L, Spector P. Nutrition and Physical Activity Environments in Licensed Child Care - A Statewide Assessment of California. Berkley, CA: University of California, Berkley; 2009.

# Appendix D

Links To Screening Questionnaire And  
Semi-Structured Questionnaires For Food Service  
Directors And Principals

1. [Screening Questionnaire](#)
2. [Semi-Structured Questionnaire for Food Service Directors](#)
3. [Semi-Structured Questionnaire for Principals](#)