



# Evaluating Healthy Vending Policies for Youth in Four Cities

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# Executive Summary

## The Issue

Vending machines are a common source for low nutrient, energy-dense snacks and beverages and youth can easily access vending machines at many public spaces such as parks, recreation centers, and swimming pools. Increasing the availability of healthier options in vending machines is one way to influence healthier snacking behaviors and is aligned with the CDC recommendation for communities to make healthier food and beverage options more readily available in public venues.

Many cities are beginning to adopt healthy vending policies in public areas, but evidence regarding best practices for developing, implementing, and evaluating these healthy vending policies is limited. This research summary examines factors that facilitate or hinder the implementation of healthy vending policies and initiatives affecting children and adolescents.

## Methods

The research team at the University of Pennsylvania used a mixed-methods, multiple case study design to evaluate healthy vending policies and initiatives in four cities\*: Chicago Parks District in Chicago, Illinois; Mecklenburg County, North Carolina; Philadelphia, Pennsylvania; and Springdale, Arkansas. Vending machines that are accessible to children and adolescents (i.e. at recreation centers or parks) were the focus of this evaluation.

Semi-structured interviews were conducted with multiple stakeholders from each city and included health department staff, policy makers, and vendors.

Site visits were conducted with each city and included intercept surveys with adults using the vending machines and observations of the available products in vending machines at two different locations. Documents including nutrition standards, policies, requests for proposals (RFPs), vending contracts, sales data, and any existing evaluation tools were collected from each site.

## Results & Recommendations

Compliance rates for healthy beverages were high across all cities, but in three of the cities, healthy snacks compliance rates were lower than what was designated by the policy/initiative.

The findings describe the major similarities and differences across four cities/counties implementing healthy vending initiatives and emphasize the major facilitators and barriers to developing, implementing, and evaluating healthy vending policies and initiatives.

Essential elements of a successful healthy vending policy/initiative include:

- 1) A champion to push the policy forward and support from high-level leaders/decision makers.
- 2) Internal and external partners with expertise in nutrition, healthy vending policy, RFP and contract development, legal matters, procurement, and revenue.
- 3) Clear communication between the vendor and city about responsibilities and expectations.

Moving forward, it is important to collect pre- and post-implementation sales data when possible in order to better understand the impact of healthy vending policies/initiatives on sales and revenues.

## The Issue

Vending machines are a common source for low nutrient, energy-dense snacks and beverages (1) and youth can easily access vending machines at many public spaces such as parks, recreation centers, and swimming pools. Increasing the availability of healthier options in vending machines is one way to influence healthier snacking behaviors and is aligned with the CDC recommendation for communities to make healthier food and beverage options more readily available in public venues (2).

## Introduction

One in six youth (17%) in the United States is obese (3), putting them at increased risk of adult obesity (4) and other chronic diseases including heart disease, diabetes, and cancer (5). The rise in childhood obesity coincides with the rise in childhood snacking behaviors, with an increasing number of youth consuming snacks multiple times a day (6). Snacking contributes approximately 25% of kids' total daily calories, with youth consuming more savory snacks and sugar-sweetened beverages as they approach adolescence (7).

Increasing the availability of healthier options in vending machines is one way to influence healthier snacking behaviors. Vending policies are also of particular importance to young people who belong to racial/ethnic minorities, who are more likely to be obese (3) and drink soda (8), and may be more likely to purchase items from a vending machine than their white counterparts (9).

Many cities are beginning to adopt healthy vending policies in public areas, but evidence regarding best practices for developing, implementing, and evaluating these healthy vending policies is limited (10,11). This research summary examines factors that facilitate or hinder the implementation of healthy vending policies and initiatives affecting children and adolescents.

## Brief Methodology

The research team at the University of Pennsylvania used a mixed-methods, multiple case study design to evaluate healthy vending policies and initiatives in four cities\*: Chicago Parks District in Chicago, Illinois; Mecklenburg County, North Carolina; Philadelphia, Pennsylvania; and Springdale, Arkansas.

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\* The "regions" being studied in this report include two cities, one county, and one city park district, but to simplify the language of this report, we will use the term "city" instead of city/county/park district.

Vending machines that are accessible to children and adolescents (i.e. at recreation centers or parks) were the focus of this evaluation.

Preliminary phone calls were conducted with a contact person at each location and then research staff visited each location in August and September 2017. During each site visit, staff completed intercept surveys with adults using the vending machines and observations of vending machines at two different locations. The intercept survey included questions about vending machine purchasing behaviors and perceptions about healthy and unhealthy snacks and beverages available in vending machines. The vending machine observations assessed what foods and beverages were available in the vending machines. To determine whether the available snacks and beverages were compliant with the designated nutrition standards, staff collected nutrition data on all of the snacks and beverages and compared them to each city's nutrition standards. Snacks and beverages that did not meet all of the standards were deemed non-compliant.

Semi-structured interviews were conducted with multiple stakeholders from each site and included health department staff, policy makers, and vendors. A total of 25 interviews were conducted between August and December 2017.

Documents including nutrition standards, policies, requests for proposals (RFPs), vending contracts, sales data, and any existing evaluation tools were collected from each site. A total of 17 documents were evaluated.

All observation data and intercept survey data were entered into databases. The stakeholder interviews were summarized and analyzed for themes. The collected documents were reviewed using a checklist to determine what was described in each document. See "Study Overview" in **Appendix A** for additional details about the study methodology.

## Findings

The following findings describe the major similarities and differences across four cities/counties implementing healthy vending initiatives. These findings emphasize the major facilitators and barriers to developing, implementing, and evaluating healthy vending policies and initiatives.

For an overview of the similarities and differences of the healthy vending policies and initiatives, see **Table 1** on page 14. **Tables 2** and **3** (page 15 and 16) outline the specific snack and beverage standards used by each city.

## **1. Champions and Support from Leadership**

Interview respondents widely agreed that successful implementation of a healthy vending policy/initiative relies on champions: someone who is motivated to make the policy a priority and is able to influence others to address the issue. The champions were always someone in a leadership position, but they often were not in a position to be able to decide whether a healthy vending policy/initiative could be created on their own. Champions included managers within the public health, wellness, and human resources departments, a mayor, a health commissioner, and the American Heart Association (AHA). Except for the mayor and health commissioner, all of the champions carried out most of the groundwork developing, implementing, and evaluating the program, but in order to get started, they all required support from top-level leaders in their government or department. Without attention and support from supervisors and leadership, they would not have been able to push these policies and initiatives forward.

## **2. Partnerships**

Interview respondents in all four cities reported that internal and external partners were essential to the success of their healthy vending policy/initiative. Two of the four cities struggled and were unsuccessful with their first attempt to implement a healthy vending policy/initiative. Both cities agreed that a major reason why it was not successful was that they were trying to implement the policy/initiative on their own, with little support from other government departments or community partners. In the three cities that used a request for proposal (RFP) process and contracts, they found it was essential to partner with other departments that had expertise in legal issues, procurement, vendor management, revenue, and nutrition. The AHA was also an important partner: all cities used or adapted the AHA's nutrition standards, and two cities worked closely with AHA to develop, implement, and/or evaluate their policy. Only one city collaborated with other community partners and these partners contributed significant support in developing and evaluating their healthy vending initiative. (See **Appendix E** for resources from many of the experts mentioned in this report).

In addition to partnering with experts, it was also important to involve the vendor as a partner. Respondents in each city commented that a positive relationship and open, frequent communication where both the city and vendor listened to each other's concerns and worked together to address them was essential to successful implementation. Three of the four cities reported that it was often difficult get all vending employees on the same page. On the vendor's side, there are many people and

processes involved with selecting and ordering products, determining what products get stocked where, creating delivery schedules, and stocking the machines. Communication got lost as it was passed from the municipal government down to the vendor's route drivers who stocked machines.

### **3. Youth and Vending Machine Purchases**

Recreation center managers in all four of the cities observed that youth are more inclined to purchase unhealthy products from the vending machines. All recreation center managers reported that chips are one of the most popular snacks among youth and other popular snacks include candy and fruit snacks. The recreation center managers said that youth (especially younger children) usually purchase the unhealthiest items in the vending machine. This idea was supported by observations of youth purchasing from the vending machines; see **Appendix C** for more information about their shopping behaviors. One manager noted that “youth stay away from anything that has a name associated with ‘health’ such as ‘nutri-’ or ‘fiber one’” and that “the healthier items are only purchased if the other items are sold out.” This manager also mentioned that the youth still eat the healthy items if that is what is available. In the two municipalities that require 100% healthy vending, the recreation center managers commented that children do not appear to notice the difference between healthy and unhealthy versions of products. One manager stated that “the kids don’t really notice a difference, whether it’s baked or it’s fried.” The interviews with recreation center managers and observations of youth purchases (**Appendix C**) suggest that youth prefer the unhealthier items when they are available, but will still eat the healthier snacks.

### **4. Request for Proposals & Contracts:**

Three of the four cities went through a competitive request for proposals (RFP) process to award a contract to one vendor. Two cities were required to go through this process because they receive a portion of the vending machine revenue. The third municipality (Mecklenburg County) does not take any revenue from the vending machines, but used an RFP to make sure the selection process was fair. Mecklenburg County may not go through the RFP process in the future due to the amount of time and effort that went into it.

While two cities specified the exact nutrition standards in their contract, three included a planogram or list of acceptable products, as agreed upon by the city and the vendor. Several respondents felt the list of acceptable products was an essential component of the contract. Two of the three cities included

financial penalties for non-compliance in their contract, which cities believed helped give the contract more “teeth,” forcing vendors to comply. After an initial grace period, both cities with penalties outlined in their contract had issued fines. The same two cities also included requirements for detailed monthly sales data, and while they both received this data, it was often late. One city’s contract included fines for late sales reports.

The fourth city is a small city that did not have contracts with vendors before or after the healthy vending policy and did not require any revenue or sales data from the vendors. While working with multiple vendors without a contract can make it more challenging to monitor compliance, this city found that the healthy vending policy was very fast and easy for them to implement without RFPs or contracts. The city simply told vendors that they needed to comply with the policy or remove their machines from government property and all vendors agreed to comply. While implementing this policy took very little effort for the city, AHA completed the challenging work of helping the vendors identify products that were compliant and monitoring compliance across the city.

For a more detailed analysis of what each city included in their policy, RFP, contract, sales data, and evaluation tools, see **Appendix D**.

## **5. Evaluation Methods**

All four cities developed formal methods for conducting regular compliance checks of the vending machines at the beginning of their new healthy vending initiative, yet two of the four cities have moved on to conducting infrequent, sporadic checks of a few random locations. For the formal compliance checks, three of the four cities used a list of acceptable healthy products or planogram (a document that shows where each healthy product must be placed in the machine) and an audit form. The audit forms collect information on whether the vending machines met their nutrition criteria as well as other any other vending machine issues. Most cities compiled and analyzed information from the audit forms in an Excel spreadsheet to produce a list of non-compliant products and other vending machine issues.

During the interviews, most of the cities reported that monitoring compliance of their vending machines was burdensome. It takes a great deal of time and effort to observe all, or even most, vending machines on a regular basis, and therefore larger cities visited a smaller portion of their machines. Chicago evaluates compliance by reviewing the list of products in the quarterly sales report to identify which



products are not in their list of acceptable products. This method is much faster than sending staff out to all locations to review machines in-person, but it also requires that the person stocking the machines puts each product in the correct slot otherwise the report will not be accurate. As of December 2017, Mecklenburg County Public Health is conducting monthly compliance checks in 30+ locations with the assistance of “Wellness Ambassadors” from many different departments and locations across Mecklenburg County. Although regular compliance checks of all vending machines is burdensome, it is essential to ensure that the vendor is being compliant.

## **6. Compliance with Nutrition Standards: Objective Assessment**

Based on our observations of vending machines and assessment of nutrition data for items in the machines, three of the four cities were below their target compliance rates for percent of snacks meeting their nutrition standards. In the two municipalities that require 100% healthy snacks, individual snack vending machines were 45-57% compliant (Mecklenburg machines averaged 46% compliance and Chicago machines averaged 56% compliance). Although compliance with the nutrition standards was below what was outlined in the policy, many of the non-compliant products were “borderline-unhealthy”: they meet many (but not all) of the nutrition standards and are often marketed as a healthy item. After much debate with their vendor, Mecklenburg County decided to allow their vendor to include several products that were borderline-unhealthy and so, using Mecklenburg County’s revised list of acceptable products, 81% of snacks in the observed vending machines were compliant. Springdale requires 25% healthy snacks and within the observed vending machines, 20% of the snacks met their nutrition standards (20-21% for individual machines). Philadelphia was the one city to hit their target for healthy snacks: 65% of snack machines must meet nutrition standards and within the observed vending machines, 66% of snacks were compliant (individual machines were 64% and 68% compliant). Across all cities, the nutrition standards that were violated most often were those related to fat: limits on total fat, saturated fat, and percent of calories from fat or saturated fat, which were violated for 10-57% of the snacks across all cities.

Cities were much more compliant with their beverage nutrition standards, which focus on zero or low calorie beverages. Mecklenburg and Chicago require 100% compliance with beverage standards, and the beverages in their machines were 100% and 95% compliant, respectively. Philadelphia exceeded their 65% requirement for healthy beverages, as 80% of beverages in the observed vending machines met

their nutrition standards. Springdale nearly hit their 50% requirement with 48% of the beverages being compliant with the beverage nutrition standards.

Vending machine assessments were completed in two locations in each city, and therefore may not reflect compliance across all vending machines. We found similar rates of compliance among vending machines within each city, suggesting that compliance rates are likely to be similar in other locations across the city. For more information on compliance results for each city, see the case studies in **Appendix B**.

Many respondents noted that while there are many more healthy snack products available today than decade ago, the selection of affordable snacks meeting all of their nutrition standards is limited. One vendor mentioned that it can be difficult to find products that are single serving or smaller packs. Healthy snacks tend to be more expensive, making it less likely that people will purchase the snack if it is priced too high or reducing vendor profits if it is priced too low. Some healthy snacks expire more quickly than unhealthy snacks. Adding new products that the vendor does not usually carry can take time for the vendor to acquire. Despite these challenges, the three vendors we spoke with emphasized that there is more demand for healthy products and their companies want to stay ahead of the competition and be innovators and leaders in the field of healthy vending.

## **7. Sales Data:**

Two cities receive detailed monthly sales data from the vendor which includes information on the number of units sold of each product in each location or vending machine. The other two cities did not include a requirement for providing sales data in the contract; however, the vendors did provide the city or AHA sales data on the top and bottom selling products. This information on top and bottom selling products is used to adapt the product mix so products that are not selling can be replaced and more slots for top selling products can be added.

Some cities want detailed sales data in order to assess whether there is a loss in sales after introducing more healthy snacks into vending machines, which is a major reason why cities and vendors are hesitant to implement healthy vending standards. Stakeholders across all cities reported that concerns about profit loss from the vendor as well as city revenue and procurement departments were barriers to adopting healthy vending policies. Previous research demonstrates that healthy vending initiatives are

successful at increasing sales and revenue from healthy and low-calorie items, but results are mixed regarding the impact on overall revenue/profits: some studies report that revenue is stable, while other studies report a decrease after healthy vending initiatives are implemented (12-15).

Philadelphia completed a detailed analysis of pre- and post-healthy vending sales data. They found that sales of healthy snacks increased by 323% (38.4 to 162.5 items sold per machine per month), yet total snack sales decreased by 17% (486.8 to 402.1 items sold per machine per month) (12). Chicago also completed an analysis of sales data showing that vending machine sales grew gradually over the first year of a healthy vending contract, but they do not have pre-healthy vending sales data to assess whether sales changed due to healthy vending (11).

## **8. Randolph-Sheppard Act – Working with a Blind Vendor**

The Randolph-Sheppard Act (RSA) and the associated state laws require local, state, and federal government agencies to give legally blind vendors priority in operating vending machine and concession services on government property. Due to a blind vendor's competitive advantage, governments are often required to select the blind vendor as their vendor rather than the vendor that they believe is best able to deliver healthy options. (See our resource list in **Appendix E** for additional resources on healthy vending and the RSA.)

Only one of the four cities included in the evaluation worked with a blind vendor. Before the RFP was released, the city worked closely with this vendor to help them get on board with the new healthy vending standards. The city provided the vendor with a list of acceptable products and provided training and technical assistance. The vendor was given a 90-day trial period in a few locations and the city gave them regular feedback about their compliance and other service issues. The vendor also received the RFP a week earlier than the other competitors. Unfortunately, this vendor was unable to demonstrate that they could comply with the healthy vending policy and other service requirements and their contract was not renewed. In this situation, there were no legal consequences, but a blind vendor could file a complaint alleging RSA violations (even when there were no legal violations), which could delay the implementation of the policy in addition to damaging your relationship with the vendor.

## Conclusions

There are many common themes across the four cities. The interviews with recreation center managers (also supported by our observational data) suggest that if youth have a choice between healthy and unhealthy items in vending machines, the youth are more likely to choose unhealthy items. If only healthy items are available, youth appear to be willing to eat healthier snacks. Although these policies impact vending machines that youth access, all of the policies were implemented with more of a focus of improving the health of government employees.

The cities also reported that essential elements of a successful healthy vending policy initiative include:

- 1) A champion to push the policy forward and support from high-level leaders/decision makers.
- 2) Internal and external partners with expertise in nutrition, healthy vending policy, RFP and contract development, legal matters, procurement, and revenue.
- 3) Clear communication between the vendor and city about responsibilities and expectations, particularly in the RFP and contract (e.g. list of acceptable products, penalties for contract violations, sales data requirements, etc.).

Compliance rates for healthy beverages were high across all cities, but in three of the cities, healthy snacks compliance rates were lower than what was designated by the policy/initiative. Although this data does not reflect compliance across all vending machines, compliance rates between the vending machines in each city were similar, suggesting that other machines across the city may have similar compliance rates. While all cities are conducting in-person compliance checks of the vending machines as of fall 2017, three of the four cities were conducting them infrequently (a few times a year) and/or in a few random locations, which limits their ability to ensure the policy is being properly implemented.

Vendors and city departments of revenue and procurement expressed apprehension about reduced sales and revenue, yet only Philadelphia was able to assess change in revenue pre-and post HV implementation. Philadelphia found that sales of healthy snacks increased dramatically, but overall snack sales dropped 17%.

The nutrition guidelines varied from city to city and these differences in defining health products and standards for nutrients and serving sizes can make it challenging for the vendors to comply. Moving forward, it is recommended to implement common standards and avoid creating new standards and

guidelines. Uniformity of standards may help to avoid pushback from vendors and reduce noncompliance due to confusion due to multiple standards.

Finally, it is important to note that products and vending markets are continuously evolving and should be considered when developing, implementing, and evaluating healthy vending policies and initiatives.

## Policy/Practice Implications

**Consider going 100% healthy** to have the biggest impact on youth. Youth are likely to select the least healthy items in the vending machine and therefore going 100% healthy pushes youth to make healthy choices. If 100% healthy does not seem like a feasible goal, another option is to provide a lower percentage of healthy products meeting strict standards, and the remaining products could be other borderline-healthy or “better for you” products that do not meet all standards, but are near compliance with the nutrition standards. This would give vendors more flexibility in the range of products they can provide while still removing junk food, such as candy. It is important to note that typically vending policies apply to all vending machines in the jurisdiction and while the recommendation of going 100% healthy might increase healthier purchases among youth, the lack of choice may not be widely accepted among adults using the vending machines.

**Consider addressing youth in the policy, RFP, and contract.** The mission of these policies/initiatives focused on providing a healthier environment for employees and residents, and only one city explicitly mentioned youth. Cities should consider addressing youth in their mission so that they are more focused on the potential impact of these policies/initiatives on youth.

**Collect pre-and post-implementation sales data, if possible.** To help understand the impact of healthy vending policies/initiatives on sales and revenues, cities can collect pre-and post-implementation sales data. Collecting sales data was a challenge across all cities, even in the one city with fines for late sales data. It may help to emphasize the requirements for sales data in the RFP and ask vendors to address their ability to provide sales data in proposal. Cities could give the vendor a template of how they would ideally like their sales data reports to be formatted so that cities are more likely to get the information they need in a format that requires minimal data cleaning. While the vendors may not provide the data in the requested template, it could be a good starting point. Ideally, cities would receive monthly sales

data that provides information on the number of items sold and revenue collected for each product at each machine.

It is important to note that even if sales data are received moving forward, baseline sales data are needed to assess change before and after healthy vending policies are implemented. It is challenging to get baseline data if the contract does not already include the requirement for providing sales data. If a city collects a portion of the revenue from vending sales, it may be possible to get historical and current sales data from the revenue department. When analyzing change in sales from before and after implementation, it is important to consider other factors that would affect sales, such as increasing price of products or increased commission to the city.

**All cities are different and what works in one city may not necessarily work in another.** For example, the small city of Springdale found that they were able to very easily pass and implement their healthy vending policy without RFPs or contracts, but in other cities, vendor competition and contracts is essential to identifying the best healthy vendor and pressing them to comply with the healthy vending policy. It is important to consider how differing centers of power, politics, leadership, and culture impact city's willingness and ability to implement healthy vending—champions must learn how to navigate the political environment in their city.

**Table 1. Healthy Vending Policy/Initiative Components Across the Four Cities**

		Chicago Park District Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR
Policy type		Initiative (no policy)	County Board of Commissioners adopted the policy	Executive Order from Mayor	Executive Order from Mayor
City or county-level policy/initiative		City Parks (Chicago Park District)	County	City	City
Year healthy vending policy enacted		NA (no policy)	2011	2014	2016
Year Healthy vending implemented		2005 for snacks; 2015 for beverages	2016	2011 for beverages; 2013 for snacks (initiative began before policy)	2016
Year Healthy vending updated		2010 for snacks; beverages not updated	2016	2016	Not Applicable
% Healthy Snack		100%	100%	65%	25%
% Healthy Beverage		100%	100%	65%	50%
City gets % of revenue?		Yes	No	Yes	No
Request for Proposal (RFP)?		Yes	Yes	Yes	No
Contract with vendor?		Yes	Yes	Yes	No
Multiple vendors?		No	No	No	Yes
Community partner(s)		Yes, Consortium to Lower Obesity in Chicago Children, ChangeLab Solutions, and many others	Yes, American Heart Association	None	Yes, American Heart Association
Interdepartmental effort?		Yes	Yes	Yes	Yes
Method of monitoring compliance	Past	Formal compliance check with product list & audit tool.	Formal compliance check of all machines using product list & audit tool.	Sporadic compliance checks & one major audit using planogram & audit tools.	AHA completed regular audits using inventory tool.
	As of 2017	Review sales data; sporadic checks of machines.	Same as above	Sporadic compliance checks. 2018-2022: UPenn study with formal compliance checks in >75% of machines.	AHA does sporadic checks of random machines.
Champion(s)		Chicago Parks Wellness Director	Health Director & Public Health team	Health Commissioner & Department of Public Health	Mayor & American Heart Association

**Table 2. Snack Nutrition Standards in Each City**

Nutrition Standards	Chicago Park District Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR <sup>^</sup>
<b>Nutrition Guidelines are based on:</b>	AHA, Alliance for a Healthier Generation, FitPick, dietitian's expertise	AHA, NANA, HHS, dietitian's expertise	AHA, NANA, HHS, standards from other cities, dietitian's expertise	AHA
<b>% Healthy in each machine</b>	100%	100%	65%	25%
<b>Servings per package</b>	≤ 2	1	-	-
<b>Calories per serving</b>	≤ 250*	≤ 200*	≤ 250*	≤ 200
<b>Total Fat per serving</b>	≤ 35% of calories*	≤ 35% of calories*	≤ 7g*	-
<b>Saturated Fat per serving</b>	≤ 10% of calories*	≤ 1g*	≤ 1g*	≤ 10% of calories
<b>Trans Fat per serving</b>	0	0	0 <sup>†</sup>	0 <sup>†</sup>
<b>Sugar per serving</b>	≤ 35% of weight**	≤ 35% of weight**	≤ 18g**	≤ 35% of weight
<b>Sodium per serving</b>	≤ 400mg*	≤ 240mg*	≤ 230mg <sup>†</sup>	≤ 230mg <sup>†</sup>
<b>Price</b>	All products are the same price	-	Healthy snack price cannot exceed highest price of unhealthy snack	-
<b>Placement***</b>	-	-	Healthy in locations of highest selling potential	-
<b>Promotion***</b>	-	Must have "nutrition labeling" as set forth in 21 CFR Parts 101 and 109 (FDA law)	Calorie content must be displayed. Only healthy snacks & beverages may be promoted	Calorie content must be displayed
<b>Other requirements</b>	No candy or gum; 5+ items with ≤250mg sodium; 1+ gluten & peanut free item; 5+ items with 5gm of fiber	Nuts & Nut/Fruit mixes must be less than 1.5oz & have less than 140mg of sodium	1+ high fiber snack, 5+ non-grain/potato products, 1 unsalted/light salted nuts, 1 dried/shelf stable fruit	-

*\*Exception for items with ONLY nuts and/or seeds; \*\*Exception for fruit (dried, canned, shelf-stable); \*\*\*Placement and Promotion standards apply to both snacks and beverages; †100% of snacks must meet this standard; ^Springdale, AR does not indicate whether nutrition guidelines are per serving or per package*



**Table 3. Beverage Nutrition Standards in Each City**

Nutrition Standards	Chicago Park District Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR
<b>% Healthy in each machine</b>	100%	100%	65%	50%
<b>Serving Size of Sugary Drinks</b>	-	-	≤ 12oz for sugary beverages*	-
<b>Calories per bottle/can**</b>	0 calories	≤ 10 calories**	0 calories**	≤ 40 calories**
<b>Bottled Water</b> (plain, sparkling, flavored)	Yes, emphasis on water options	Yes, water must be in all beverage machines; flavored must be ≤ 10 calories	Yes, water must be in all beverage machines	Yes (but not required in all machines)
<b>Diet Soda</b>	Yes, zero calories only	Yes, ≤ 10 calories	Yes, 0 calories	Yes, ≤ 40 calories
<b>Juice</b>	100% Juice, 6oz max	100% Juice with no added sweetener & ≤ 120 calories/8oz	100% Juice	100% Juice with no added caloric sweeteners***
<b>Milk</b>	-	Only skim & 1%; or milk alternative with ≤ 130 calories/8oz	Only skim & 1%	Only skim, 1%
<b>Other standards</b>	No diet or regular energy beverages	-	-	-
<b>Beverage Price</b>	Plain water is \$0.25 less than other carbonated and diet sodas	-	Water price cannot exceed price of cheapest sugar-sweetened beverage	-

*\*May go up to 20oz if cans cannot be vended in the machine. No size restrictions for diet or unsweetened beverages; \*\*Calorie standards exclude 100% juice and milk; \*\*\*100% vegetable juice must have less than 230mg of sodium*

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## Appendix A: Study Overview

Data were collected by University of Pennsylvania research staff between August 2017 and December 2017. The research team used a mixed-methods, multiple case study design, including a review of records and documentation, interviews, observations, and intercept surveys, to evaluate healthy vending policies and initiatives in four cities. UPenn staff traveled to each city to conduct site visits and collect data in-person. Two site visits were conducted in each city to observe the vending machines and purchasing behavior.

**Table 1. Data sources were used in this evaluation**

Type of data	N	Description
<b>Records and Documentation</b>	17 documents total; 2-7 documents per site	The research team used a checklist to review records and documentation about the healthy vending policies and initiatives. Seventeen different documents were reviewed, including nutrition standards, policies, request for proposals, contracts, sales data, and evaluation tools.
<b>Interviews</b>	25 interviews total; 5-7 interviews per city	Semi-structured interviews were conducted with five to seven stakeholders from each city. Stakeholders included health department staff, recreation center managers, community partners, and vendors. These interviews focused on facilitators and barriers to implementing and evaluating healthy vending policies and when applicable, helped to capture recommendations to be considered for future healthy vending policies. Interviews were recorded and reviewed to identify common themes.
<b>Observation of items in vending machines</b>	142 snacks & 54 beverages total; 4-7 vending machines per city	During each site visit, a full inventory of snacks and beverages in the vending machines was completed using the Nutrition Environment Measurement Vending Survey (NEMS-V). After site visits, nutrition data on all snacks and beverages were collected from the USDA Food Composition Databases, manufacturers' websites, and major retailers with images of nutrition fact labels. An Excel spreadsheet was used to assess whether each item complied with nutrition standards in each city. Vending machine inventories were only completed at two locations in each city and our findings do not reflect compliance rates across the whole city. However, compliance rate among vending machines within each city were similar, suggesting that other vending machines across the city have similar compliance rates.

<b>Observations of people purchasing vending items</b>	47 people observed total; 9-16 people per city	During each site visit, we observed people purchasing items from vending machines to collect demographic data on who was purchasing items and what they were purchasing. All observation data were entered into databases and frequencies were calculated.
<b>Intercept Surveys</b>	36 people total; 4-13 per city	In tandem with observing purchasing behaviors, short intercept surveys were conducted with adults using the vending machines to assess reactions to the products available in the vending machines and to ask about purchases. All intercept survey data were entered into a database and descriptive analyses were done in Excel and SPSS.

*All surveys, interview guides, and data collection tools are available upon request.*

## Appendix B: Case Studies

### Case Study: Chicago Park District, Chicago, IL (City Park Initiative)

#### Summary

Chicago Park District (CPD) partnered with many community organizations and nutrition and policy experts to implement this healthy snack vending initiative. They worked together to develop appropriate nutrition guidelines for snacks, create the RFP and contract, and evaluate the initiative. CPD's Wellness Manager was essential to the development and implementation of this initiative and is working on a healthy vending policy that they hope to pass in 2018 to help enforce this initiative.

Based on observations of two snack and five beverage vending machines, 57% of snack and 95% of beverages met the healthy vending initiative nutrition standards (100% healthy snacks and beverages).

The information outlined in this case study are based on an evaluation of interviews with various stakeholders in Chicago (e.g., CPD Wellness Department staff, recreation center managers, community partners), healthy vending documents (request for proposal, contracts, evaluation tools), published findings, and observations of vending machines at two locations.

**Date Healthy Vending Policy Enacted:** Not applicable. Chicago Park District does not have a policy yet.

**Date Healthy Snack Vending Initiative Implemented:** 2005

**Date Initiative Updated:** 2010

#### Nutrition Standards

Snack Standards (2010)	Chicago Park District
<b>Nutrition Guidelines are based on:</b>	American Heart Association (AHA), Alliance for a Healthier Generation, FitPick, dietitian's expertise
<b>% Healthy</b>	100%
<b>Servings per package</b>	≤ 2
<b>Calories per serving</b>	≤ 250*
<b>Total Fat per serving</b>	≤ 35% of calories*
<b>Saturated Fat per serving</b>	≤ 10% of calories*
<b>Trans Fat per serving</b>	0
<b>Sugar per serving</b>	≤ 35% of weight**
<b>Sodium per serving</b>	≤ 400mg*
<b>Price</b>	All products are the same price
<b>Other requirements</b>	No candy or gum; 5+ items with ≤250mg sodium; 1+ gluten & peanut free; 5+ items with 5gm of fiber

\*Exception for items with ONLY nuts and/or seeds

\*\*Exception for fruit (dried, canned, shelf-stable)

Beverage Standards (2015)***	Chicago Park District
<b>% Healthy</b>	100%
<b>Calories per bottle/can</b>	0 calories
<b>Water</b> (plain, sparkling, flavored)	yes, emphasis on water options
<b>Diet Soda</b>	yes, 0 calories only
<b>Juice^</b>	100% Juice, 6oz max
<b>Other standards</b>	No energy drinks
<b>Beverage Price***</b>	Plain water is \$0.25 less than carbonated waters and diet sodas

\*\*\*Healthy snack standards were developed before beverage standards. Drinks and snacks have separate contracts. This case study focuses on snack standards.

^Note: No juices was sold in the vending machines at the two sites we observed.

## **Observed Compliance with Nutrition Standards**

The following data on compliance with the above nutrition standards are based on observations of two snack and five beverage vending machines in two locations on September 26-27, 2017. Individual snack machines contained 54%-57% healthy snacks and individual beverage machines were 88-100% healthy. According to the nutrition standards, both snack and beverage vending machines should include 100% healthy snacks and beverages.

### **Snacks (2 vending machines, 2 locations)**

Healthy vs. Unhealthy	# of items	% of items
<b>Total Snacks*</b>	<b>70</b>	<b>100%</b>
<b>Healthy Snacks</b>	<b>39</b>	<b>56%</b>
<b>Unhealthy Snacks</b>	<b>31</b>	<b>44%</b>
Servings >2	6	9%
Calories >250	0	0%
>35% Cal Fat total	13	19%
>10% Cal Sat. Fat	9	13%
Sugar >35% of weight	10	14%
Sodium >400mg	2	3%
# of empty slots	0	
# of gum/mint slots	5	
All snacks same price?	Yes	

\*Total snacks refers to total number of slots with snacks, excluding gum, mints, and empty slots.

### **Beverages (5 vending machines, 2 locations)**

Healthy vs. Unhealthy	# of items	% of items
<b>Total Drinks</b>	<b>40</b>	<b>100%</b>
<b>Healthy Drinks*</b>	<b>38</b>	<b>95%</b>
<b>Unhealthy Drinks</b>	<b>2</b>	<b>5%</b>
Calories > 0	2	5%
Water not 25¢ less	0	0%
# of empty slots	0	
Energy Drinks sold?	No	

NOTE: One was broken or power was off when we collected data. Data from that machine is included here since it is usually stocked under this contract.

\*Dasani Lemon Flavored water has 5 calories in it, which is above the 0 calorie limit, but we decided this should still be considered healthy.

## **Developing the Healthy Vending Initiative**

**Chicago Park District (CPD)** healthy vending initiative began in 2005 when the CPD Senior Program Specialist for Fitness (who is a Registered Dietitian was promoted to **CPD Wellness Manager** in 2010) noticed that snacks in the recreation centers vending machines were unhealthy. She received support from her supervisor and CPD's Superintendent to work with CPD's snack vendor to request healthier items for vending machines in parks and recreation centers. Due to the lack of healthy snacks that were sized for vending machines in 2005, the vendor agreed to follow the healthy snack standards for 10 of the 60 snacks in each vending machine and provide sales data. The vendor did not comply with CPD's nutrition standards nor did they provide sales data. In 2007, CPD chose not to renew their contract and snack vending machines were left empty for a few years.

After this unsuccessful attempt to implement a healthy vending initiative, the Wellness Manager partnered with numerous community organizations to revamp the healthy snack vending initiative. CPD's healthy snack vending initiative was supported a grant from the Robert Wood Johnson Foundation, Chicago's **Healthy Kids, Healthy Communities (HKHC)**. HKHC aimed to promote change



through partnerships, including collaborations with community organizations and the local government. HKHC addressed several community health issues, including healthy vending machines. Community leaders helped connect CPD to relevant nutrition and policy experts and stakeholders so they could refocus and revise their approach to healthy vending and get more buy-in from government leadership. The **Consortium to Lower Obesity in Chicago Children (CLOCC)** (part of **Lurie Children's Hospital**) and **Logan Square Neighborhood Association (LSNA)** worked with the Wellness Manager to host monthly meetings and identify researchers and resources who could help develop an appropriate nutrition policy.

At first, CPD's Wellness Manager received some apprehension from CPD's finance and internal revenue department. CPD receives a portion of snack and beverage revenues and there were concerns that switching to healthy vending would cause a drop in sales. CPD's Superintendent, CPD area managers and supervisors, parents, members of the park advisory council, and HKHC community partners voiced their support for healthy vending which helped to move the initiative forward. CPD did not pass a policy requiring healthy vending at this time. Instead, they developed a Request for Proposals (RFP) for healthy snack vendors and a healthy vending contract (see below).

### **Implementing the Healthy Snack Vending Initiative**

The **CDP Wellness Manager** and her team in the **CPD Wellness Department** were and continue to be the main driving force behind implementing the initiative and monitoring compliance. Before healthy snacks could be added to the vending machines, a new RFP for healthy snack vendors was developed. The Wellness Manager worked with **ChangeLab Solutions** to develop appropriate legal language for the RFP and contract. Two vendors applied and one vendor received a contract for all of CPD's 130 vending machines. The vendor trained their staff and provided them with a list of acceptable products that met the CPD nutrition standards.

In collaboration with HKHC partners, the CPD Wellness Department held trainings about the healthy vending initiative with CPD staff, including supervisors, instructors, and managers. The Wellness Manager developed a nutrition education plan and held a town hall to explain the healthy snack vending initiative. Some training sessions included taste tests of healthy items featured in the vending machines and reviewed how to read a nutrition label.

The Wellness Manager was in charge of working with vendors on any compliance issues that arose. In addition to the compliance monitoring methods mentioned below, managers at parks and recreation centers also reported any non-compliant vending machines and the Wellness Manager and her staff followed up with the vendors as needed to assure compliance.

**CLOCC** and their associated partners at **Northwestern University** led a multifaceted, community-based participatory research project to evaluate the healthy vending initiative. They assessed snack compliance, observed purchasing behavior, collected sales data, surveyed patrons, and interviewed park staff to gather their opinions about the healthy products in the vending machines. CPD Staff and **LSNA** assisted with data collection. Partners at CLOCC, Northwestern University and LSNA analyzed the data and wrote a report and scientific manuscript based on their findings.

### **Youth and Vending Machines**

The recreation center managers who were interviewed said that chips and fruit snacks are the most popular items purchased by children. One manager noted that youth stay away from anything that has a name associated with “health” such as “nutri-” or “fiber one” and that the healthier items are only purchased if the other items are sold out. Both managers noted that youth seem to like anything with “red hot” powder since those are the first to sell out. One manager also mentioned that teens who came to the recreation center to play a sport were more conscientious about their snack choices.

### **Monitoring Compliance with Healthy Vending Standards**

**Initial Compliance Monitoring Method:** From fall 2011 to summer 2012, CPD and several **HKHC** partners evaluated the healthy vending initiative (as described above). The evaluation included assessing compliance with the nutrition standards, as described below.

- **Evaluation Tools:** The evaluation tools included a planogram which listed healthy items that met the nutrition standards and a vending machine checklist, which was used to record what was available in the vending machine.
- **Evaluation Plan:** A member of the HKHC research team periodically visited randomly selected locations to assess compliance with the nutrition standards. The research team also used these visits to identify other issues such as machine malfunctions, complaints from patrons, last vendor delivery date, and any empty rows in the vending machine. CPD reviewed the vending machine checklists and compiled a list of issues to discuss with the vendor.
- **Consequences:** The Wellness Manager discussed compliance and any other issues with the vendor. When non-compliant products were found in the machine, vendors were to be fined \$25 per item per day (as outlined in the contract). However, this was not always enforced, particularly for borderline-healthy products. They did fine for products that were obviously unhealthy, such as candy. Vendors re-trained non-compliant drivers who stocked the machines to help ensure that they were stocking healthy snacks that were compliant with the nutrition standards.

*Please see the paper “Working with Community Partners to Implement and Evaluate the Chicago Park District’s 100% Healthier Snack Vending Initiative” for additional information about the evaluation.*

**Compliance Methods as of 2017:** Compliance is monitored by reviewing sales data and conducting “spot checks” 1-2 times a year using the methods described above. More frequent evaluations are not conducted because it was very time-consuming for CPD staff.

- **Frequency of compliance evaluations:** CPD’s Wellness Manager reviews the sales data monthly to assess compliance with the nutrition standards. This often happens less frequently depending on when the data are received from CPD’s Internal Revenue department.
- **Evaluation Tools:** Monthly sales data was requested in the contract, but often time was not provided unless on a quarterly basis.
- **Evaluation Plan:** CPD’s Wellness Manager scans the sales data to review the list of snacks sold in each machine and creates a list of non-compliant items. This information is given to the vendor.
- **Consequences:** The contract states that vendors are to be fined \$25/day when non-compliant products are found in the vending machine. As of August 2017, this was not being enforced.

### **Major Facilitators**

- **Having a Champion:** CPD’s Wellness Manager made it her primary mission to ensure that the vending machines in Chicago Parks had healthy snacks available. She was heavily involved in all aspects of the initiative from researching and planning the policy, building a team, getting buy-in from her supervisors and community, and monitoring compliance. CPD would not have a healthy vending initiative without the Wellness Manager.
- **Partnering with Experts:** After a failed attempt to implement healthy vending on her own in 2005, the Wellness Manager partnered with many organizations and experts to develop successful initiative. ChangeLab Solutions was essential in developing the legal language for the RFP and contract. CLOCC, LSNA, and Northwestern were instrumental in helping to connect CPD to the resources they needed to develop the nutrition guidelines and to plan, implement, and evaluate the healthy snack vending initiative. It is also important to have a dietitian on the team to give input on the development of the nutrition guidelines.

### **Major Barriers**

- **Fear of profit loss:** Both the vendors and CPD’s Internal Revenue department (which receives 13% of snack revenues) were concerned about losing money. Due to the lack of sales data prior to the implementation of the healthy vending initiative, it is unknown whether the initiative impacted sales, but sales data from their vendor shows that sales are stable.
- **Not having a healthy vending policy:** Having a policy would help to enforce the contract and ensure longevity for the healthy vending initiative beyond the vending contract.
  - **Resolution:** CPD’s Wellness Manager is drafting a policy that they hope to pass by 2018.

- **Vendor confusion around nutrition standards:** The vendor's drivers sometimes confuse CPD's nutrition standards with that of other clients, resulting in the wrong products being stocked in CPD's vending machines. The drivers stock machines at other sites with different health standards that are not as stringent as the CPD nutrition guidelines. Sometimes the drivers mix up which products meet which standards when stocking the vending machines.
  - **Resolution:** The vendor re-trains the drivers and provides them with a list of acceptable products for CPD.
- **Not enough vendors applied to the RFP:** CPD was hoping to have more than two vendors apply to the RFP, but other vendors did not want to commit to 100% healthy vending due to the fear of losing profits.

### **Recommendations from the Interview Respondents**

- **You need a policy first in order to enforce a contract:** Some vendors, patrons, and employees within CPD and local government would prefer to get rid of healthy vending—a policy would help protect this initiative and keep it in place during contract negotiations and after the vendor contract ends. The Wellness Manager stated *“Not everyone has a health-focused mind. Sometimes people have ulterior motives to get rid of the contract and go back to the old ways... My priorities are going to be different than their priorities. [CPD's Internal Revenue] want to know how much money was made; I want to know what [healthy products] were selling.”*
- **Work with partners and utilize healthy vending and nutrition expertise:** At first, the Wellness Manager tried to implement a healthy vending initiative on her own, which was not successful. By partnering with a team of people with similar goals and utilizing existing resources and expertise, they were able to successfully implement the initiative.
- **100% healthy is the best way to go:** This promotes CPD's values and makes it easiest to monitor compliance (compared to when some unhealthy items are permitted).
- **Get staff and patrons on board with the new healthy vending initiative:** Provide educational materials, do taste testing, and hold town hall meetings to encourage and engage everyone in the community.
- **Get more input and buy-in from vendors and manufacturers:** Get vendors involved in the process as opposed to telling the vendors what to do. Now that more cities are adopting healthy vending initiatives and policies, vendors and food manufacturers have more incentive to start creating and selling items that meet these standards. A conference where local government, vendors, and food manufactures can meet and share their successes and concerns is a great place to start and would encourage stakeholders to work together.

## Case Study: Mecklenburg County, NC (County Policy)

### Summary

Mecklenburg County Public Health (MCPH) and the Health Director led the effort to develop, implement, and evaluate a healthy vending policy on Mecklenburg County government property. After completing a large employee survey demonstrating that employees wanted healthy options, MCPH worked closely with the American Heart Association (AHA) to update their existing un-implemented healthy vending policy. Numerous departments within Mecklenburg County government assisted with creating a new request for proposals and contract. As of 2017, MCPH is conducting regular compliance checks and working with the vendor to ensure that they are complying with their nutrition standards.

Based on observations of two snack and two beverage vending machines, 46% of snacks and 100% of beverages met the healthy vending nutrition standards (100% healthy snacks and beverages).

The information outlined in this case study are based on an evaluation of interviews with various stakeholders in Mecklenburg (e.g., MCPH, Procurement Department, recreation center manager, AHA), healthy vending documents (RFP, contracts, evaluation tools), and observations of vending machines.

**Year Healthy Vending Policy Enacted:** 2011 (this policy was never implemented)

**Year Healthy Vending Policy Updated:** 2015

**Year Healthy Snack Vending Policy Implemented:** 2016

### Nutrition Standards

Snack Standards	Mecklenburg County, NC
<b>Nutrition Guidelines are based on:</b>	AHA, NANA, HHS, dietitian's expertise
<b>% Healthy</b>	100%
<b>Servings per pack</b>	1
<b>Calories per serving</b>	≤ 200*
<b>Total Fat per serving</b>	≤ 35% of calories*
<b>Saturated Fat per serving</b>	≤ 1g*
<b>Trans Fat per serving</b>	0
<b>Sugar per serving</b>	≤ 35% of weight**
<b>Sodium per serving</b>	≤ 240mg*
<b>Promotion</b>	Must have nutrition labeling as set forth in 21 CFR Parts 101 and 109 (FDA law)
<b>Other</b>	Nuts & Nut/Fruit mixes must be less than 1.5oz & have less than 140mg of sodium

\*Exception for items with ONLY nuts and/or seeds

\*\*Exception for fruit (dried, canned, shelf-stable)

Beverage Standards	Mecklenburg County, NC
<b>% Healthy</b>	100%
<b>Calories per bottle/can**</b>	≤ 10 calories*
<b>Bottled Water</b> (plain, sparkling, flavored)	yes, water must be in all beverage machines; flavored must be ≤ 10 calories
<b>Diet Soda</b>	yes, ≤ 10 calories
<b>Milk<sup>^</sup></b>	Only skim & 1%; or milk alternative with ≤ 130 calories/8oz
<b>Juice<sup>^</sup></b>	100% Juice with no added sweetener & ≤ 120 calories/8oz

\*Calorie standards exclude 100% juice and milk.

<sup>^</sup>Note: no juices or milks were sold in the vending machines at the two sites we observed.

## Observed Compliance with Nutrition Standards

The following data on compliance with the above nutrition standards are based on observations of two snack and two beverage vending machines in two different locations on August 23-24, 2017. The individual snack machines were 45% and 47% healthy snacks and both beverage machines were 100% healthy according to the nutrition standards. According to the nutrition standards, both snack and beverage vending machines should be 100% healthy according to the nutrition standards.

Mecklenburg allows the vendor to include 10-15 borderline-healthy snacks that do not meet the nutrition standards in their policy. Eighty-one percent of snacks were on their revised list of acceptable snacks or met their policy standards. The two vending machines contained 83% and 78% healthy snacks according to the revised list of acceptable snacks.

### Snacks (2 vending machines, 2 locations)

Healthy vs. Unhealthy	Policy criteria		Mecklenburg allowed†	
	# of items	% of items	# of items	% of items
<b>Total Snacks*</b>	<b>72</b>	<b>100%</b>	<b>72</b>	<b>100%</b>
<b>Healthy Snacks</b>	<b>33</b>	<b>46%</b>	<b>58</b>	<b>81%</b>
<b>Unhealthy Snacks</b>	<b>39</b>	<b>54%</b>	<b>14</b>	<b>19%</b>
Servings >1	1	1%	0	0%
Calories >200	15	21%	5	7%
Fat Cal >35% total Cal	19	26%	8	11%
Saturated Fat >1g	19	26%	3	4%
Sugar >35% of weight	3	4%	1	1%
Sodium >240mg	7	10%	2	3%
Nuts only: Sodium >140mg	4	6%	0	0%
# of empty slots*	5		5	
# of gum/mint slots*	4		4	

†Mecklenburg allows an additional 10-15 borderline-healthy items that do not meet their nutrition standards.

\*Total snacks refers to total number of slots with snacks, excluding gum, mints, and empty slots.

### Beverages (2 vending machines, 2 locations)

Healthy vs. Unhealthy	# of items	% of items
<b>Total Drinks</b>	<b>24</b>	<b>100%</b>
<b>Healthy Drinks</b>	<b>24</b>	<b>100%</b>
<b>Unhealthy Drinks</b>	<b>0</b>	<b>0%</b>
Calories > 10	0	0%
# of empty slots	0	
Bottle water sold?	Yes (sold out in 1 machine)	

## **Developing the Healthy Vending Policy**

In 2011, Mecklenburg County swiftly drafted and passed a healthy vending policy for all vending machines on government property. This policy was never implemented because there was a lot of misunderstanding and miscommunication about who was responsible for implementing and enforcing the policy. In 2015, Mecklenburg County's Health Director decided to make healthy vending a priority and update the existing healthy vending policy. The Health Director worked closely with **Mecklenburg County Public Health (MCPH), Office of Policy and Prevention**, and the **American Heart Association (AHA)** to develop and implement this initiative. The MCPH Office of Policy and Prevention conducted an audit of vending machines and surveyed 1500 Mecklenburg County employees to assess their vending machine usage and opinions about healthy vending. They found that 96% of employees were supportive of providing healthy food and beverage vending options. This evidence helped convince the County Manager and her Executive Team that employees wanted healthy options and they agreed to update their policy.

The **Supervisor and Senior Manager within the MCPH Office of Policy and Prevention** worked closely with AHA to refine the policy. They got feedback from managers across the various Mecklenburg government agencies to determine what would be feasible. In 2015, the Board of County Commissioners approved the updated policy and AHA sent them a letter congratulating them for passing a progressive healthy vending policy and acknowledging their hard work.

## **Implementing the Healthy Vending Policy**

The MCPH Office of Policy and Prevention is leading the implementation and evaluation of their healthy vending policy. MCPH decided to engage many Mecklenburg County departments to complete this massive overhaul of the vending services so that it was not just a public health effort—they wanted this initiative to focus on better service and better options for employees and residents, rather than focusing on health. The MCPH Office of Policy and Prevention assembled a cross-department “vending team” to help with implementation: **Mecklenburg County Procurement Division** and **Vendor Management** worked on the request for proposals (RFP) and contracts, as well as managing day-to-day issues with the vendor; **Legal** team reviewed their existing contracts with six vendors and other legal concerns; **Enterprise Management** and **Asset and Facility Management** assisted with the transitioning from the old vendors to the new vendor; and the **Department of Social Services, Parks and Recreation**, and other departments with vending machines provided feedback about implementation and evaluation.

Mecklenburg County first released a request for information (RFI) to assess what vendors were willing and able to comply with their nutrition standards and fulfill orders for a large county. **AHA** reached out to local vendors to let them know about this opportunity and five large companies responded to the RFI. Encouraged by this response, they developed the RFP, but only received two applicants. They awarded the contract to a vendor that agreed to their nutrition standards, but during contract negotiations, the

vendor began to push back on the standards because they were very concerned about being about to sell enough products. Rather than go through the RFP process again, Mecklenburg County agreed to allow an additional 10-15 snacks that were “healthier” but did not meet Mecklenburg’s standards. Their contract began in March 2017 and it took about a month to transition out all of the old machines and install new ones with healthy products.

MCPH Office of Policy and Prevention developed a list of acceptable food and beverage items and the vendor must get approval before adding new products to their machines. MCPH is monitoring vending machines in about 30 locations on a monthly basis. In the future, they hope to get employees in other departments to help them with this assessment (see below for information on compliance evaluations).

### **Youth and Vending Machines**

One recreation center manager observed that the vast majority of people using the vending machines are children and teens. Before switching to healthy vending machines, he said that kids would often buy candy and other junk food. Since they switched to 100% healthy products, he has heard very few complaints about healthy products. The recreation center manager said, “We have about 200-300 kids that come in every [week] night from 4:00-8:00 pm. It doesn’t matter if you have chocolate covered roaches in there or healthy roaches, they eat whatever is in there. So you see a variety of things get eaten.” In his machines, he noticed that the items that go out of stock the fastest are the chips (Doritos and Sun Chips), popcorn, animal crackers, and nuts.

### **Monitoring Compliance with Healthy Vending Standards**

As of December 2017, Mecklenburg County Public Health is working with “Wellness Ambassadors” from various Mecklenburg County departments to assist completing rigorous compliance evaluations.

- **Frequency of Compliance Evaluations:** MCPH staff are doing monthly evaluations with their new vendor, but in the future, they will conduct them less frequently because compliance checks are time consuming.
- **Evaluations Tools:** For the regular compliance checks, staff use a list of approved snacks and beverages that meet their healthy standards (referred to as a planogram), and an audit form to collect a variety of information about the vending machines. To determine if new items can be added to the planogram, they created an Excel document that is able to calculate whether vending machine items meet their nutrition standards after entering information from the snack’s nutrition label.
- **Evaluation Plan:** Staff observe vending machines in each government building and complete audit forms identifying which beverages and snacks do not meet compliance, number of empty slots in snack vending machines, any expired products, and other issues.



- **Data Compilation and Analysis:** Information from the audit form are entered into an Excel database and data are compiled to analyze findings. Lists of non-compliant snacks and beverages are produced.
- **Consequences:** Compliance and other issues are passed on to the Procurement Division who manages the contract and communicates regularly with the vendor via email, phone calls, and meetings. They inform the vendor of which non-compliant products were found in the vending machines.

### **Major Facilitators**

- **Interdepartmental collaboration and other partnerships:** MCPH staff said that the lack of interdepartmental collaboration and communication was a major reason why the original 2011 policy failed to get off the ground. It was a great deal of work to shift from working with six food purchasing vendors to one vendor using a new centralized process, RFP, and contract. They relied on expertise from other departments and AHA to develop and implement the policy. Clear communication across the departments was key to a smooth transition to their new contract.
- **Champions:** Numerous interviewees said that this policy was championed by the Health Director and his Public Health team (particularly the Supervisor and Senior Manager of MCPH Office of Policy and Prevention). The Health Director made the healthy vending policy part of his annual work plan, which helped hold him accountable to its success. He ensured that the County Manager and her Executive paid attention to this issue and that his department received the resources they needed. The MCPH Office of Policy and Prevention carried out most of the groundwork developing the policy and connecting to other departments to ensure it was properly implemented and monitored.
- **Getting employee buy-in:** Before they decided to update their healthy vending policy, MCPH surveyed 1500 employees to assess their opinions of healthy vending. MCPH felt this was essential to convincing the County Manager and her Executive Team that this was a change that people wanted. There also is an email feedback mechanism established for employees to utilize to express their comments about the vending policy.

### **Major Barriers**

- **Vendor non-compliance with nutrition standards:** During the RFP process, the vendor assured Mecklenburg that they could provide snacks that met their nutrition standards, but during contract negotiations, they changed their mind. The vendor was concerned they would lose money due to reduced sales and wanted to use their own line of “better for you” snacks. The vendor mentioned that they use telemetry reports and feedback from their drivers to help ensure compliance, but there are many moving pieces involved with stocking the vending machines and it can be hard to get everyone on the same page.

- **Resolution:** Rather than going through another RFP process, Mecklenburg County decided to allow the vendor to add an additional 10-15 items that are borderline-healthy. The vendor continues to work with their drivers to make sure they are stocking compliant products.
- **Limited availability of healthy products meeting Mecklenburg’s standards:** The vendor said they face numerous challenges finding enough products that meet their standards.
  - Products in Mecklenburg’s machine must be single serving, which can be difficult to find.
  - Many healthy snacks tend to be more expensive, reducing the likelihood that people will buy it if the price is too high, or reducing their profits if they price it too low.
  - There are also challenges acquiring new snacks that are not currently in the list of products that the vendor carries. The vendor cannot just add new products—they work with other companies to negotiate pricing and contracts for new products and it can take time to get new products approved and into their system so they can be added to the vending machines.
  - Although healthy product selection is limited, the vendor noted that the snack manufacturing industry is moving in the right direction: “It’s actually opened up our eyes a little bit to explore some other types of products. The industry as a whole is getting healthier and more options are becoming available. And your big companies like Hershey’s or Mars or Frito Lay see that there is a need for ‘better choice’ items. So they’re starting to market items that actually fit into snack machines and fit [healthy] criteria and there is getting to be more [healthy] products out there for us to choose from.”
- **Few vendors applied to the RFP:** Although five companies expressed interested in Mecklenburg’s healthy vending contract, only two vendors applied to the RFP. One vendor that decided not to apply said they chose not to because they thought the policy was too restrictive and they would not be able to make a profit.
- **Monitoring compliance takes a great deal of time and effort –** Mecklenburg County recognizes that monitoring compliance is essential to the success of this policy, yet MCPH is heavily burdened by this task, which pulls them away from their other work.
  - **Resolution:** MCPH is utilizing and training “Wellness Ambassadors” across the various Mecklenburg County departments who will be able to assess the vending machines in their own buildings and nearby buildings so that MCPH is not the only one responsible for monitoring compliance.

## **Recommendations from Interview Respondents**

- **Team-based approach:** Gathering a team of experts to assist with the many varying aspects of developing, implementing, and evaluating a healthy vending program is essential to its success. To get other departments involved outside of public health, focus the messaging on providing better vending services and options rather than on making everything healthy. Many interviewees agreed that while they faced many challenges along the way, they were able to work through them by working together toward a common goal.
- **Better to say “healthier” rather than healthy:** Mecklenburg staff noted that people define health in different ways and that people felt more comfortable calling these “healthier” products. Mecklenburg received many complaints about diet soda being considered healthy.
- **Emphasize that it is about choices:** Many people become concerned that freedom of choice to choose food/beverages would be taken away when vending machines become 100% healthy. To counter this, many interviewees emphasized that you should tell the employees and public that it is about providing a range of healthy choices.
- **Essential contract elements:** Include nutritional parameters, product placement, a planogram, and (if possible) sales data in the contract with the vendor.
- **Be flexible and allow subcontractors:** The vendors says that allowing subcontractors helps the vendor do their job and it helps keep costs down.
- **Keep in mind that all cities are different:** As one interviewee from AHA said, “if you’ve seen one local government, you’ve seen one local government. And they’re all different.” Local governments are managed in very different ways with different centers of power, politics, and culture, which you need to be able to navigate.
- **If your city does not collect revenue from vending machines, carefully consider whether you should do an RFP:** Mecklenburg wanted to ensure their process for selecting a contractor was fair, so they decided to go through the RFP process, but they did not need to because they do not collect any revenue from vending machines. In the future, Mecklenburg said they are not sure if they would go through the RFP process again since it is very time-consuming.

## Case Study: Philadelphia, PA (City Policy)

### Summary

The Philadelphia Department of Public Health (PDPH) received a 2010 CDC grant that launched various health promotion programs, including a healthy vending initiative. Health beverage requirements were added to an existing vending contract in 2011 followed by healthy snack requirements in 2012. In 2014, Philadelphia adopted an executive order requiring that all food and beverages purchased, served, or sold by city departments must meet healthy vending or meal nutrition standards. Philadelphia has worked with three consecutive vendors on healthy vending, and has adapted their RFP and contract based on lessons learned from previous vending contracts. The current (third) vendor began providing healthy vending services to Philadelphia in early 2017.

Based on observations of two snack and three beverage machines in two locations, 66% of snacks and 80% of drinks met the nutrition standards (65% of snacks and beverages should meet standards).

The information in this case study is based on an evaluation of interviews with various stakeholders (PDPH staff, recreation center managers, current vendor), healthy vending documents (RFP, concession contract, and evaluation tools), published and unpublished reports, and observations at two locations.

**Date Healthy Snack Vending Policy Implemented:** 2011 for beverages, 2012 for snacks

**Date Healthy Vending Policy Enacted:** 2014 executive order

**Date Healthy Vending Policy Updated:** Executive order has not been updated, but nutrition standards in the companion document were updated in 2016

### What are the Nutrition Standards?

Snack Standards (2017)	Philadelphia, PA
<b>Nutrition Guidelines are based on:</b>	AHA, NANA, HHS, standards from other cities, dietitian's expertise
<b>% Healthy</b>	65%
<b>Calories per serving</b>	≤ 250*
<b>Total Fat per serving</b>	≤ 7g*
<b>Saturated Fat per serving</b>	≤ 1g*
<b>Trans Fat per serving</b>	0 <sup>†</sup>
<b>Sugar per serving</b>	≤ 18g**
<b>Sodium per serving</b>	≤ 230mg <sup>†</sup>
<b>Price</b>	Healthy item price cannot exceed highest price of unhealthy item
<b>Placement</b>	Healthy items in locations of highest selling potential
<b>Promotion</b>	Calories must be displayed. Only healthy items may be promoted

\*Exception for items with ONLY nuts and/or seeds.

\*\*Exception for fruit (dried, canned, shelf-stable).

†100% of snacks must meet this standard.

Drink Standards (2017)	Philadelphia, PA
<b>% Healthy</b>	65%
<b>Serving size of sugary drinks</b>	≤ 12oz for sugary drinks*
<b>Calories per bottle/can**</b>	0 calories**
<b>Bottled water</b> (plain, sparkling, flavored)	yes, water must be in all beverage machines
<b>Diet Soda</b>	yes, 0 calories
<b>Juice</b>	100% Juice
<b>Milk</b>	Only skim & 1%
<b>Beverage Price</b>	Water price cannot exceed price of cheapest sugar-sweetened beverage

\*May go up to 20oz if cans cannot be vending for safety reasons. No size restrictions for diet or unsweetened beverages. \*\*Calorie standards exclude 100% juice and milk.

## Observed Compliance with Nutrition Standards

The following data on compliance with the above nutrition standards are based on observations of two snack and three beverage vending machines in two recreation centers on August 11 and September 14, 2017. Individual snack machines contained 64-68% healthy snacks and individual drink machines contained 75-83% healthy drinks. According to Philadelphia's nutrition standards, both snack and beverage machines should be at least 65% healthy and both drinks and snacks met or exceeded 65%.

### Snacks (2 vending machines, 2 locations)

Healthy vs. Unhealthy	# of items	% of items
<b>Total Snacks*</b>	<b>64</b>	<b>100%</b>
<b>Healthy Snacks</b>	<b>42</b>	<b>66%</b>
<b>Unhealthy Snacks</b>	<b>22</b>	<b>34%</b>
Calories > 250	5	8%
Fat >7g	14	22%
Saturated Fat >1g	17	27%
Sugar >18g of weight	8	13%
Sodium >230mg	8	13%
# of empty slots*	9	
# of gum/mint slots	7	
Price	Yes	
Promotion	Yes	
Placement	Yes	

### Drinks (3 machines, 2 locations)

Healthy vs. Unhealthy	# of items	% of items
<b>Total Drinks</b>	<b>65</b>	<b>100%</b>
<b>Healthy Drinks</b>	<b>52</b>	<b>80%</b>
<b>Unhealthy Drinks</b>	<b>13</b>	<b>20%</b>
Calories > 0	13	20%
Sugary drinks > 12oz	0	0%
# of empty slots	0	
Water cheaper than sugary beverages	yes	

\*Total snacks refers to total number of slots with snacks, excluding gum, mints, and empty slots.

## Developing the Healthy Vending Initiative

Philadelphia's healthy vending initiative was part of a larger program funded in 2010 by the Centers for Disease Control (CDC) that was designed to make healthy living easier by promoting environmental changes at the local level. The grant prompted Philadelphia to examine the food environment, starting with vending machines on city property. The **Philadelphia Department of Public Health (PDPH)** reviewed a variety of nutrition standards including guidelines from the American Heart Association, National Alliance for Nutrition and Activity, and cities, such as existing healthy vending policies in Philadelphia Public Schools and New York City. The **Health Commissioner** was a strong supporter of healthy vending and helped push this initiative forward. In 2012, the PDPH created (and continues to consult) an **interdepartmental workgroup** to collect feedback on vending and meal nutrition guidelines from departments that sell or serve food such as the Police Department, Parks and Recreation, Department of Prisons, among others.

PDPH and the **City Procurement Department** amended their existing contract with the city's vendor to include healthy beverage nutrition standards in 2011; healthy snack standards were added to the contract in 2012. Emails were sent to employees to let them know about upcoming changes to the

vending machines. The first healthy vendor worked with PDPH to identify snacks and drinks that met Philadelphia's standards and develop a planogram of where snacks and drinks should be placed in the vending machine. This vendor had some compliance issues and did not provide sales data on time. In 2013, the contract ended and a request for proposal (RFP) for a healthy vendor was released.

In February of 2014, a new vendor was awarded the healthy vending contract, which ultimately was terminated early due to consistent issues with the vendor and contract violations. The vendor provided less variety of healthy products than their first vendor (the healthy items mainly consisted of baked chips) and also raised prices, which hindered people from purchasing items from the vending machine. During May-July of 2014, PDPH completed a thorough audit of 246 of the City of Philadelphia's 390 total beverage and snack machines. They found that while 61% of beverage machines and 85% of snack machines were at least 65% healthy according to their nutrition standards, none of the machines met full compliance with the other standards (e.g. calorie labeling, placing healthy items closest to eye level). In addition to ongoing issues with compliance and stocking of machines, the vendor did not provide sales data, which was a requirement in the RFP and contract. The City of Philadelphia decided not to renew and the contract was terminated.

In June to July of 2014, PDPH conducted a survey of 1,881 city employees to assess their use of vending machines, awareness of nutrition/healthy labeling, and opinions about products in the vending machines. Half of participants liked that there were healthy beverage (51.6%) and snack (53.4%) options in the machines, compared to 11.9% and 13.1% disliking the healthy beverage and snack options, respectively. Over half of participants reported that they use nutrition information "often" or "always" when making a beverage (51.5%) or snack (57.9%) choice. In addition to demonstrating that employees support healthy vending, this survey, along with product taste tests, helped to identify what types of products employees liked and what factors would encourage or prevent them from purchasing items in the machines.

### **Developing the Healthy Vending Policy**

Building off momentum from the CDC grant and initial implementation of the healthy vending initiative, the PDPH and the Mayor's Office decided to create an official healthy vending policy. In addition to vending machines, the executive order expanded the nutrition standards to all meals and snacks purchased and served through City contracts. The **Heath Commissioner** and the **Mayor** strongly supported the development of a healthy meal and vending executive order because it was in line with Philadelphia's efforts to create a healthier food environment. In June 2014, the Mayor signed the executive order requiring that "all food and beverages purchased, prepared or served in connection with a City Contract comply with Nutrition Standards." Rather than including the nutrition standards in the executive order, PDPH created a separate companion document with nutrition standards that are updated as needed.

### **Post-Policy Healthy Vending**

Based on challenges with the second healthy vendor, the 2016 healthy vending RFP and contract included penalty language for non-compliance with nutrition standards and late sales data. They also added requirements to ensure a broader variety of products. A third healthy vendor was awarded the healthy vending contract in 2016 and is communicating regularly with PDPH and Procurement to work through any challenges and ensure they are compliant with the contract.

The vendor used a standard planogram for all snack and beverage machines so that drivers knew where to stock each product. While having a standard planogram is easier for stocking products and tracking sales data, employees in different departments enjoy different types of beverages and snacks. In 2018, the PDPH will likely allow a more flexible planogram so that employees can provide more input on the products stocked in their department's vending machines, which would contribute to an increase in sales. The interdepartmental workgroup continues to provide feedback on nutrition guidelines and products for their vending machines.

In addition to monthly compliance checks completed by Procurement and PDPH (see "Monitoring Compliance" section below), a supervisor working for the vendor checks 12-24 vending machines on a weekly basis for compliance and trains non-compliant drivers. As of December 2017, the vendor and PDPH were continuing to work through problems with compliance and late sales data, but everyone agrees they are moving in a positive direction.

### **Youth and Vending Machines**

Recreation Center Managers said that chips, regular soda, and water were the items most frequently purchased by youth. They did not notice a change in vending machine use after healthy vending began, although some children ask why there isn't more candy available in the machine. One facility manager who had resided in north Philadelphia for the past 18 years said "Breakfast in North Philly was a Hug (*juice drink*) and a bag of chips. So anything that could be better than that that we could provide was really what I was looking for."

### **Monitoring Compliance with the Healthy Snack Vending Initiative**

- **Frequency of Compliance Evaluations:**
  - **2011-2016:** Compliance checks were completed infrequently with the first two healthy vendors.
  - **2014:** In May-July 2014, a major audit of the second vendor was conducted once with 63% of the City of Philadelphia's of 390 vending machines.
  - **2017:** With the third vendor, compliance checks are being conducted at a few random locations on a monthly basis. Different locations are visited each month.

- **Evaluations Tools:** Evaluation tools include planograms identifying where snacks and drinks should be placed and two audit forms for assessing beverage and snack machine compliance.
- **Evaluation Plan:** PDPH and Procurement observes vending machines in government buildings and completes the audit forms to identify whether beverage and snack vending machines are compliant with nutrition, price, placement, promotion, and product mix requirements. Photos are taken of each vending machine.
- **Data Compilation and Analysis:** Information from the audit form are entered into a database and data is compiled to analyze how many vending machines meet each of the requirements. A non-conformance and disposition report is produced identifying what products in which machines were non-compliant.
- **Consequences:**
  - **2011-2016:** PDPH and Procurement send the vendor their findings about non-compliant items.
  - **2017:** PDPH and Procurement send the vendor their findings and the vendor must respond with how the issue was fixed. Procurement will revisit the non-compliant machines and, if the issues are not addressed as the vendor said they would be, the vendor is fined for each day that the machine is non-compliant. The vendor was given an initial grace period and fines began in December 2017.

**Future Compliance Monitoring Methods:** In 2018-2022, PDPH will be collaborating with the University of Pennsylvania on a rigorous evaluation of more than 75% of Philadelphia's healthy vending machines to assess compliance and labeling of healthy products.

### **Major Facilitators:**

- **Gradual transition to healthy vending and meals:** Many interview respondents agreed that a slow transition of healthy vending makes the entire process more feasible. By starting with food environment issues that are easier to address, they were able to test what works well and what does not so they could adapt their plan for the next phase. PDPH first tackled healthy beverages before snacks because it was easier to define a healthy beverage and there are fewer products. After healthy vending was implemented through the vending contract, the City made it a formal policy and added the nutrition requirements to meals purchased and served through city contracts. At the start of a vending contract, healthy vending machines were rolled-out in phases: they began with youth-serving facilities and buildings with large employee populations and after testing this for a few months, expanded to all vending machines. It also seemed easier to start with a 65% rather than 100% requirement for healthy products so they had some flexibility with their products and vendors and consumers had time to adapt.
- **Open communication and positive relationship between vendor and City of Philadelphia:** The PDPH, Procurement, and the current (third) healthy vendor have frequent communication with



open discussions regarding products, services, and any other issues. Philadelphia felt it was important to view the vendor as a partner and to work closely with them to get their feedback and buy-in on various processes. Although there have been many bumps along the way, this positive, collaborative relationship has allowed them to push forward to find ways to address challenges.

- **Support from leadership:** Both the Health Commissioner and the Mayor strongly supported healthy vending and other healthy food environment initiatives. While many vendors are resistant to changing to healthy vending, the first vendor was willing to add healthy nutrition standards to their contract because they knew that this is what leadership wanted.
- **Having one vendor:** Before 2010, Philadelphia consolidated all vending from many contracts to a single contract, which made it possible for them to tackle healthy vending. Transitioning to healthy vending would have been much more difficult if they had multiple vending contracts and vendors.

### **Major Barriers:**

- **Sales Data from Vendor:** Getting sales data from the vendor was and continues to be a large challenge with all three vendors. None of the vendors provided sales data on time, if at all. Some vendors worked with vending subcontractors that use a different format to collect sales data, making it complicated to compile sales data into one database.
  - **Resolution:** To hold vendors accountable for providing sales data, the current vendor contract requires the vendor to pay a fine for every day that the monthly sales data is late. The vendor was given an initial grace period and fines for late sales data began in January 2018. As of December 2017, they have not been able to provide sales data on time. They are also working on adopting new technology for tracking sales data.
- **Challenges with second vendor:** Philadelphia faced numerous challenges with their second healthy vendor. In addition to ongoing issues with compliance, the vendor had a limited variety of products due to their contracts with food manufacturers and a resistance to providing a larger selection of items. The vendor also increased prices and overtime, did not regularly service and stock the vending machines. The vendor claimed they were losing money because nobody bought the healthier items; however, the reported drop in sales could have been a result of limited product selection/product availability and increased prices.
  - **Resolution:** Philadelphia chose not to renew this contract for an additional option year. The following RFP in 2016 included new penalty language and greater clarity about expectations than the previous contract.
- **Drivers not following planogram:** Although the vendor may be on board with healthy vending, the drivers who stock the machine do not always follow the planogram. If products are placed in the wrong slot, it also leads to incorrect sales data since reporting relies on products being stocked in specific slots. Working with subcontractors also makes it more challenging to get drivers from the various companies on the same page.

- **Resolution:** Drivers receive ongoing training and work with a supervisor who monitors the vending machines and trains non-compliant drivers. To minimize confusion with products for other customers, the trucks only contain products for the City of Philadelphia.

### **Recommendations from the Interview Respondents:**

- **Important components of request for proposals and contracts:** In the 2016 RFP and contract, Philadelphia made sure to include clear language about their expectations of the vendors. Interview respondents recommended including the following components in RFPs and contracts:
  - **Penalties for late sales data and non-compliance:** Philadelphia's healthy vendors have had difficulty providing timely sales data and maintaining compliance, therefore the most recent iteration of the vending RFP and contract included penalties to help hold the vendor accountable to contract terms.
  - **Planograms:** The RFP should request that the vendor provide initial planograms in their proposal to demonstrate that they understand the nutrition and other standards and that they are able to stock a variety of products. During contract negotiations, the city and vendor can work together to revise the planograms as needed. It is recommended that final planograms be included in the contract, but considering that different departments will have different demand for products, it is good to be flexible and allow the vendor to adapt planograms.
  - **Variety of Products:** The RFP and contract should include requirements for providing a variety of products (e.g. some products must be whole grain, high fiber, etc.).
  - **Pricing:** Include language about how much healthy products should cost and how much the pricing can be raised each year. Ensure that the vendor cannot price healthy items significantly higher than the unhealthy items.
- **Taste tests and other promotion of healthy products:** Two of the vendors provided taste tests for city employees to introduce the new, healthier items and to get feedback on what products they enjoy. It was also suggested that doing taste tests prior to implementing healthy vending would be helpful in determining what products should go in the planogram (although Philadelphia did not do this). In addition to taste tests, the third vendor promoted a different item each month, which was offered at a lower price to encourage consumers to try the product.
- **Increase demand for healthy vending and it will be easier for vendors to comply:** A common theme in interviews was that as more municipalities, organizations, and leaders are requesting healthier products in vending machines, the more food manufacturers are developing products that meet this demand. While many vendors struggle to shift to healthy vending, it is becoming easier now that more products are available and multiple clients are requesting healthier products.

## Case Study: Springdale, AR (City Policy)

### Summary

In 2016, Springdale, Arkansas was able to rapidly implement a healthy vending executive order for all vending machines on government property, including the Youth Recreation Center. This policy was instituted quickly because government leadership was on board and the city did not need to go through a competitive request for proposal or contracting process since the city does not take a portion of the vending machine revenue. The American Heart Association of Northwest Arkansas was essential to this policy and strongly supported the Mayor and Human Resources in developing, implementing, and monitoring compliance with this policy.

Observations of two snack and three beverage vending machines show that 22% of snacks and 48% of beverages met their healthy nutrition standards (the healthy vending policy requires 25% healthy snacks and 50% healthy beverages).

The information outline in this case study are based on an evaluation of interviews with various stakeholders in Springdale (the Mayor, recreation center manager, vendor, etc.), healthy vending documents (policy, evaluation tools), and observations of vending machines at two locations.

**Date Policy Enacted:** April 2016

**Date Policy Implemented:** April 2016

### Nutrition Standards

Snack Standards	Springdale, AR
<b>Nutrition Guidelines are based on:</b>	American Heart Association
<b>% Healthy</b>	25%
<b>Calories</b>	≤ 200
<b>Saturated Fat</b>	≤ 10% of calories
<b>Trans Fat</b>	0 <sup>†</sup>
<b>Sugar</b>	≤ 35% of weight
<b>Sodium</b>	≤ 230mg <sup>†</sup>
<b>Promotion</b>	Calorie content must be displayed

<sup>†</sup>100% (not 25%) of snacks must meet this standard

Beverage Standards	Springdale, AR
<b>% Healthy</b>	50%
<b>Calories per bottle/can</b>	≤ 40 calories*
<b>Bottled Water</b> (plain, sparkling, flavored)	Yes
<b>Diet Soda sold?</b>	Yes, ≤ 40 calories
<b>Juice<sup>^</sup></b>	Only 100% Juice with no added caloric sweeteners**
<b>Milk<sup>^</sup></b>	Only Skim & 1%

\*Calorie standards exclude 100% juice and milk.

\*\*100% vegetable juice must have < 230mg sodium.

<sup>^</sup>Note: No milks or juices were sold in the vending machines at the two sites that were observed

## **Observed Compliance with Nutrition Standards Results**

The following data on compliance with the above nutrition standards is based on observations of two snack and four beverage vending machines in two locations on September 7-8, 2017. The individual snack machines contained 20%-26% healthy items and individual beverage machines were 43-50% healthy. (According to nutrition standards, snack machines should be at least 25% healthy and beverage machines should be at least 50% healthy.

### **Snacks (2 vending machines, 2 locations)**

Healthy vs. Unhealthy	# of items	% of items
<b>Total Snacks*</b>	<b>54</b>	<b>100%</b>
<b>Healthy Snacks</b>	<b>11</b>	<b>20%</b>
<b>Unhealthy Snacks</b>	<b>43</b>	<b>80%</b>
Calories > 200	31	57%
Sat. Fat Cal >10% total Cal	29	54%
Trans fat > 0	0	0%
Sugar > 35% of weight	15	28%
Sodium > 230	20	37%
# of empty slots	2	
# of gum/mint slots	5	

\*Total snacks refers to total number of slots with snacks, excluding gum, mints, and empty slots.

### **Beverages (3 vending machines, 2 locations)**

Healthy vs. Unhealthy	# of items	% of items
<b>Total Drinks*</b>	<b>21</b>	<b>100%</b>
<b>Healthy Drinks</b>	<b>10</b>	<b>48%</b>
<b>Unhealthy Drinks</b>	<b>11</b>	<b>52%</b>
Calories > 40	11	52%
# of empty slots*	<b>4</b>	

\* Total excludes empty slots.

Note: We excluded one beverage vending machine that was almost completely out of stock because the facility manager said he did not think the machine was being serviced and stocked since the healthy vending policy began.

## **Developing the Healthy Vending Policy**

The **American Heart Association – Northwest Arkansas (AHA-NWA)** was a major driving force behind Springdale's healthy vending policy. The **AHA-NWA Community Health Director and Community Policy Manager of Northwest Arkansas** met with the **Mayor of Springdale** and Springdale's **Human Resources (HR) department** to discuss the development of a healthy vending policy for government buildings in Springdale, AR. Through this meeting, the AHA-NWA motivated the Mayor to make healthy vending a priority as the policy would be relatively easy to implement in Springdale and would help to create a healthier food environment. AHA-NWA worked closely with Springdale's Mayor and the **Director of Public Relations** to provide them with nutrition standards and other policy guidance. Further, AHA-NWA suggested creating an executive order to expedite implementation. The Mayor signed the executive order in April 2016 and it immediately took effect.

## **Implementing the Healthy Vending Policy**

It took a few months after executive order was signed to get all vendors to comply with nutrition standards. The **Director of Public Relations** sent an email to employees informing them about the new healthy vending policy and posted information about the executive order on their website. She also sent the list of vendors with machines on government property to **AHA-NWA's Community Health Director**

so that she could help the vendors to comply with the new policy. AHA-NWA was keenly aware of vendors' concerns about losing sales with healthier products and AHA-NWA helped vendors to identify healthier products that they believed would sell and which unhealthy products to replace. Although the policy only required 25% of snacks to be healthy, many stakeholders (a vendor, City administration, staff at AHA, recreation center manager) said they were aiming for 40-50% of the snacks to be healthy.

The City of Springdale does not have vending contracts and the vendors usually work directly with a **facility manager at the government buildings** to request stocking. Although facility managers were not officially responsible for monitoring compliance, they were aware of the policy and would contact PR and request healthier snacks from the vendor when necessary. The **AHA-NWA** provided guidance to the City of Springdale throughout the implementation process and completed rigorous compliance checks (see the description of the evaluation below for more information). Only one vendor refused to comply with the policy initially and they were told by the PR Director and the Mayor to comply or remove their vending machines from government property.

### **Youth & Vending Machines**

The Youth Recreation Center Manager mentioned that kids are most likely to purchase candy from the machines and that candy and fruit snacks were the items that were most likely to sell out. He observed that adults were more likely to purchase healthier items for themselves, but kids would usually pick unhealthy items. Observations of purchases for youth (by youth and their parents) confirmed that kids requested and purchased unhealthy items.

### **Monitoring Compliance with Healthy Vending Standards**

**Initial Evaluation Methods:** During the first several months following the executive order, **AHA-NWA** took responsibility for monitoring and evaluating vendors' compliance with the healthy vending policy.

- **Frequency of compliance evaluations:** The AHA-NWA Community Health Director or other AHA-NWA staff visited all of the facilities on a monthly basis.
- **Evaluation Tools:** Healthy Food and Beverage Toolkit (developed by AHA)
- **Evaluation Plan:** The AHA-NWA Community Health Director used the Vending Machine Inventory Worksheet in the Healthy Food and Beverage Toolkit to record all of the snack and beverage items in the machines at each site. Pictures were taken of the items available in the vending machines and the vendor contact information was captured.
- **Data Compilation and Analysis:** To complete the Inventory Worksheet, interns at AHA-NWA researched and documented the calories, fat content, and sodium content for each snack and beverage on the Vending Machine Inventory Worksheet. AHA-NWA compared this information with

Springdale's nutrition guidelines and calculated the percentage of items that were compliant for each vending machine.

- **Consequences:** AHA-NWA had a great relationship with the vendors. In the event that non-compliant items were found in the vending machines, AHA-NWA worked with PR and the vendors to ensure that vendors are selecting items that met the nutrition requirements. If vendors refused to comply, PR and the Mayor told them that if they did not comply, their machines would have to be removed from government property.

**Evaluation Methods as of 2017:** AHA-NWA is no longer conducting regular compliance checks, but they conduct compliance checks (as described above) on a sporadic basis in random locations. The City of Springdale has not taken over this responsibility as the City of Springdale states that vendors are responsible for assuring that items in the vending machines meet the nutrition guidelines. If a Facility Manager notices that a vending machine does not offer healthy options, they can contact the vendor to inform them that they are not compliant. Facility Managers are usually responsible for working with vendors to make sure that machines are stocked and request healthier snacks when too many snacks in the vending machine "look unhealthy."

### **Major Facilitators**

- **Champions:**
  - **Springdale's Mayor** expressed great interest in encouraging a healthy lifestyle for the citizens of Springdale. Based on AHA-NWA's suggestion, he made healthy vending a priority and signed an Executive Order.
  - **AHA-NWA** provided vital support in developing, implementing, and enforcing the healthy vending policy. After motivating the Mayor to take on this issue, AHA-NWA took on the responsibility of working with the vendors to implement the policy and then monitoring the vending machines for compliance.
- **Positive relationship with vendor:** AHA-NWA built strong, positive relationships with the vendors. The vendors were very eager to maintain their sales and were willing to work with AHA-NWA to successfully make the necessary changes.
- **Expedited process with executive order and no request for proposal (RFP) or contracts:** Signing an Executive Order allowed the City of Springdale to move forward quickly without getting approval from a City Council (many municipalities would require a City Council to vote on this type of policy). The City of Springdale does not take any revenue from the vendors, and therefore, did not need to go through a competitive RFP process or develop contracts, which would have prolonged the process. Not having a contract also allowed the City of Springdale to tell vendors to comply or remove their machines from government property.

- **AHA’s Healthy Food & Beverage Tool Kit:** The toolkit provides detailed information about what nutrition criteria are considered healthy and how to properly implement a healthy vending policy. This toolkit also contains an inventory worksheet, which was used to record and assess whether products in the vending machine met the nutrition guidelines.

### **Major Barriers**

- **Vendors fear profit loss:** At first, vendors were concerned about their profit margin and feared losing business if people did not purchase the healthier items. The smaller “Mom and Pop” vendors were less cooperative as they were more concerned about the impact this change would have on sales.
  - **Resolution:** The AHA-NWA Community Health Director expressed understanding of the fear the vendors faced and let them know they would do everything they could to make sure their profits did not decline as “[they] didn’t want it to affect the sales because [they] knew it was their livelihood.” One vendor reported that their sales remained consistent before and after changing to healthier products.
- **Expiration of healthy foods:** At first, some of the healthier products were expired because the vendors were not stocking the vending machines in a timely fashion.

### **Recommendations from the Interview Respondents**

- **Skip the RFP and contracts if your city does not take any revenue from the machines:** This will give the city more flexibility in choosing the appropriate vendor(s) and removing non-compliant vendors when necessary. Developing a RFPs and contracts also slows down the process.
- **Build positive, collaborative relationships with the vendors and facility managers** in government buildings. Frequent open communication among everyone involved in ordering, stocking, and monitoring the vending machines will facilitate proper implementation of the policy.
- **Work with experts:** It is critical to have someone who understands nutrition and has experience implementing a healthy vending policy. Springdale’s policy probably would not exist without the support and expertise from AHA-NWA.

## Appendix C: Shopper Observations and Survey Results

### Observations of Youth Purchasing Behaviors

Based on our observations of 15 youth across the four cities, the most frequently purchased snacks were fruit snacks and chips. In the two cities that did not require snacks to be 100% healthy, youth either purchased items that were obviously unhealthy (e.g. Twix or Pop Tarts) or products that were “borderline-unhealthy,” meaning the snacks met many but not all of the city’s nutrition standards. For example, Sun Chips Harvest Cheddar would be considered borderline-unhealthy because it met all of Chicago’s nutrition standards except one: more than 35% of its calories are from fat. In the two municipalities that require 100% healthy snacks, most of the purchases included borderline-unhealthy snacks. Zero purchases were of obviously unhealthy snacks because the machines in municipalities requiring 100% healthy snacks did not contain any obviously unhealthy snacks. These observations along with our findings from interviews with recreation center managers (described on page 6) suggest that youth prefer the unhealthier items when they are available, but will still eat the healthier snacks.

### Survey Results: Opinions about Vending Machine Purchases and Healthy Snacks

Intercept surveys were conducted with a total of 36 adults across the four cities who use the vending machines. Participants included both those visiting and those working at the site where the vending machine was located. When making a choice at a vending machine, 75% of respondents (n=27) reported that taste is very important. Both price and making a healthy purchase at a vending machine were either somewhat important or very important for 58% of respondents (n=21). Most (69%, n=25) reported that trying a new snack or beverage was not an important factor when choosing what to purchase from vending machine. This suggests that giving people an opportunity to taste new healthy snacks can help encourage people to purchase snacks that they had not previously tried before. Two cities conducted multiple taste tests with employees and believed they were an important part of getting people on board with their healthy snack initiative.

Everyone believed that they can tell the difference between healthy and unhealthy beverages in vending machines (100%, n=36) and almost everyone believed that they can tell the difference between healthy and unhealthy snacks in vending machines (97%, n=35). Approximately 80% of respondents agreed that they would like to see more healthy options in vending machines (80%, n=29); however, most did not agree that vending machines should be required to stock only healthy options (58%, n=21).



## Appendix D: Document Analysis

**Table 1. Healthy Vending Policies in Four Cities**

	Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR	Summary of Findings	
					n (# of yes's)	% (out of 3)
Does Policy exist?	No	Yes	Yes	Yes	3	100%
Year Policy was passed, updated	N/A	2011, 2015	2014	2016		
Does the Policy include....?	<i>2015 policy analyzed</i>					
Detailed <u>Snack</u> nutrition standards?	N/A	Yes	Yes	Yes	3	100%
Detailed <u>Beverage</u> nutrition standards?	N/A	Yes	Yes	Yes	3	100%
% Healthy?	N/A	Yes	Yes	Yes	3	100%
Calorie labeling required?	N/A	Yes	Yes	Yes	3	100%
Labeling of healthy products required?	N/A	No	Yes	No	1	33%
Price Requirements for healthy items?	N/A	No	Yes	No	1	33%
Promotion requirements for healthy items?	N/A	No	Yes	No	1	33%
Placement requirements for healthy items?	N/A	No	Yes	No	1	33%
Impact on Youth mentioned?	N/A	No	Yes	No	1	33%
Scope of policy (what machines are covered)?	N/A	Yes	Yes	Yes	3	100%

**Table 2. Request for Proposals (RFPs) in Four Cities**

	Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR	Summary of Findings	
					n (# of yes's)	% (out of 3)
Does RFP exist?	Yes	Yes	Yes	No	3	100%
Year RFP was released?	2010	2016	2016	N/A		
<b>Does the RFP Include...?:</b>						
Detailed <u>Snack</u> nutrition standards?	Yes	Yes	Yes	N/A	3	100%
Detailed <u>Beverage</u> nutrition standards?	No	Yes	Yes	N/A	2	67%
% Healthy?	Yes	Yes	Yes	N/A	3	100%
Calorie labeling required?	No	Yes	Yes	N/A	2	67%
Labeling of healthy products required?	No	No	Yes	N/A	1	33%
Price Requirements for healthy items?	No	No	Yes	N/A	1	33%
Promotion requirements for healthy items?	No	No	No	N/A	0	0%
Placement requirements for healthy items?	No	No	Yes	N/A	1	33%
Consequences for non-compliance?	Yes	No	Yes	N/A	2	67%
Requirement for sales data?	Yes	No	Yes	N/A	2	67%
Sample list of healthy items?	Yes	No	No	N/A	1	33%
Impact on Youth mentioned?	No	No	No	N/A	0	0%

**Table 3. Contracts in Four Cities**

	Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR	Summary of Findings	
					n (# of yes's)	% (out of 3)
Does Contract exist?	Yes	Yes	Yes	No	3	100%
Year Contract went into effect	2010	2016	207	N/A		
<b>Does the Contract Include...?:</b>						
Detailed <u>Snack</u> nutrition standards?	No	No	Yes	N/A	1	33%
Detailed <u>Beverage</u> nutrition standards?	No	No	Yes	N/A	1	33%
% Healthy?	No	Yes	Yes	N/A	2	67%
Calorie labeling required?	No	Yes	Yes	N/A	2	67%
Labeling of healthy products required?	No	Yes	Yes	N/A	2	67%
Price Requirements for healthy items?	No	No	Yes	N/A	1	33%
Promotion requirements for healthy items?	No	No	Yes	N/A	1	33%
Placement requirements for healthy items?	No	No	Yes	N/A	1	33%
Consequences for non-compliance?	Yes	No	Yes	N/A	2	67%
Requirement for sales data?	Yes	No	Yes	N/A	2	67%
List of permitted healthy items?	Yes	Yes	Yes	N/A	3	100%
Revenue sharing?	Yes	No	Yes	N/A	2	67%
Impact on Youth mentioned?	No	No	No	N/A	0	0%

**Table 4. Sales Data in Four Cities**

<b>Sales data</b>	<b>Chicago, IL</b>	<b>Mecklenburg County, NC</b>	<b>Philadelphia, PA</b>	<b>Springdale, AR</b>	<b>Summary of Findings</b>	
					<b>n (# of yes's)</b>	<b>% (out of 3)</b>
<b>Does city request sales data?</b>	<b>Yes</b>	<b>Some data</b> , just provide names on top and low selling products	<b>Yes</b>	<b>No</b>	<b>3</b>	<b>100%</b>
<b>Does the Sales data include...?:</b>						
<b>Data for individual products?</b>	Yes	Yes	Yes	N/A	<b>3</b>	<b>100%</b>
<b>Data for individual vending machines?</b>	Yes	Yes	Yes	N/A	<b>3</b>	<b>100%</b>
<b>Data are: weekly, monthly, quarterly?</b>	Monthly	Monthly	Monthly	N/A		
<b># of items sold?</b>	Yes	Yes	Yes	N/A	<b>3</b>	<b>100%</b>
<b>Amount of money collected?</b>	No	Yes	Yes	N/A	<b>2</b>	<b>67%</b>
<b>Using the data provided, is it possible to study change in sales of healthy &amp; unhealthy snacks?</b>	Yes	No	Yes	N/A	<b>2</b>	<b>67%</b>

**Table 5. Methods for Evaluating Compliance in Four Cities**

	Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR	Summary of Findings	
					n (# of yes's)	% (out of 4)
<b>Conducting formal, in-person compliance evaluation (2017)?</b>	Yes	Yes	Yes	Yes	4	100%
<b>Frequency of compliance checks?</b> <b>How many vending machine sites?</b>	As of 2017, 1-2 times per year at a few random sites. In past, completed monthly assessments of 10 randomly selected sites.	Monthly check of all machines	Monthly checks at a few random sites. In 2014, completed one thorough audit of all ¾ of vending machines	As of 2017, Few times a year at a few random sites. In past, conducting monthly checks of all vending machines.		
<b>Other methods for monitoring compliance</b>	Using quarterly sales data to monitor compliance. <u>Informal method:</u> Facility manager noticing non-compliance.	<u>Informal method:</u> Facility manager noticing non-compliance.	<u>Informal method:</u> Facility manager noticing non-compliance.	<u>Informal method:</u> Facility manager noticing non-compliance.		
<b>List the compliance evaluation tools</b>	1) Planogram (list of acceptable products) and 2) Vending Machine Checklist	1) Healthy Vending Nutrition Calculator, 2) Snack & Drink Planogram (list), 3) Audit Form	1) Planogram, 2) Beverage and Snack Vending Machine Assessment Form	Vending Machine Assessment for City of Springdale (AHA food and beverage toolkit)		
<b>Who completed compliance checks?</b>	CPD Wellness Department Staff, and partners at CLOCC, Northwestern, LSNA	Mecklenburg Public Health Staff (in future, other Mecklenburg County staff will assist with compliance checks)	Philadelphia Department of Public Health, Procurement	American Heart Association (city does not do formal compliance checks)		
<b>Briefly Describe compliance monitoring</b>	As of 2017, they review quarterly sale data and identify snacks that do not meet their criteria. In the past, auditors would visit vending machine sites use product list and complete the checklist to assess compliance.	Dept of Public Health staff conduct monthly audits of all vending machine sites. They use a planogram and audit form. Audit form takes about 20 minutes to complete. Audit forms are entered into Excel and summary results are produced. Non-compliance issues are then discussed with the vendor.	Dept of Public Health visit a few randomly selecting occasions each month and complete their audit form using the planogram. Non-compliant results are brought to vendor. In past, auditors completed rigorous assessment of Philadelphia's 200+ vending machines.	As of 2017, AHA will visit a few sites a couple of times a year to assess compliance. In the past, AHA conducted monthly evaluations of all sites. They inventoried the snacks in the database and later compared it against their nutrition standards		

Table 5 (continued)

		Chicago, IL	Mecklenburg County, NC	Philadelphia, PA	Springdale, AR	Summary of Findings	
						n (# of yes's)	% (out of 4)
<b>How do they determine if an item meets their nutrition guidelines or not?</b>	They identify "questionable items" that are not on their planogram		They identify which products are in the machine that are not in the planogram. They also have a nutrition calculator to determine if new products meet their nutrition standards.	They compare items in the machine to the planogram and note if the machines are not 65% healthy. They also assess product, placement, promotion, nutritional labeling, pricing, size of sugary beverages, and other detailed criteria.	After taking inventory of all products in the machine, AHA fills in nutrition data in a spreadsheet. They compare it to Springdale's standards and indicate why products are not healthy.		
<b>Compliance Evaluation includes....?:</b>							
<b>Planogram or list of acceptable items?</b>	Yes	Yes	Yes	Yes	Partial	<b>4</b>	<b>100%</b>
<b>Audit tool?</b>	Yes	Yes	Yes	Yes	Yes	<b>4</b>	<b>100%</b>
<b>Assess whether full compliant with nutrition standards? (not just a sample)</b>	Yes	Yes	Yes	Yes	Yes	<b>4</b>	<b>100%</b>
<b>Assess full compliance with Price, Promotion, Placement, Labeling requirements?</b>	No	No	Yes	No	No	<b>1</b>	<b>25%</b>
<b>Stocking issues?</b>	Yes	Yes	Yes	Yes	No	<b>3</b>	<b>75%</b>
<b>Functional Machine?</b>	No	No	No	No	No	<b>0</b>	<b>0%</b>
<b>Prices assessment?</b>	No	Partial	Yes	No	No	<b>2</b>	<b>50%</b>

## Appendix E: Healthy Vending Resources

- **Published Papers on Healthy Vending in Philadelphia and Chicago.** (There were no published papers from Mecklenburg County or Springdale)
  - **Philadelphia, PA**
    - Pharis ML, Colby L, Wagner A, Mallya G. Sales of healthy snacks and beverages following the implementation of healthy vending standards in City of Philadelphia vending machines. *Public Health Nutr.* 2017;1-7. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/29061207>
    - **Data Brief:** Philadelphia Department of Public Health. [City of Philadelphia Healthy Vending Policy: Impact on sales and revenue](#); 2014
  - **Chicago Park District: Chicago, IL**
    - Mason M, Zaganjor H, Bozlak CT, Lammel-Harmon C, Gomez-Feliciano L, Becker AB. Working with community partners to implement and evaluate the Chicago Park District's 100% Healthier Snack Vending Initiative. *Prev Chronic Dis.* 2014;11:E135. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/25101492>
    - Mason M, Gomez-Feliciano L, Becker AB, Bozlak CT, Lammel-Harmon C, Conti V, Cox S, Katta E, O'Boyle M, Zaganjor H. Chicago Park District, CLOCC, 2012. Available at: <http://www.feinberg.northwestern.edu/sites/ipham/docs/HealthierSnackVendingResourceGuide.pdf>
    - **Presentation:** Gomez-Feliciano, L & Lammel-Harmon, C. [Changing the Whole Food Environment in Chicago Parks](#); 2014.
- **ChangeLab Solutions:** <http://www.changelabsolutions.org/publications/healthier-vending-municipalities>
  - **Guides for Municipalities:**
    - [Making Change: A Guide to Healthier Vending for Municipalities](#); 2012.
    - [Understanding Healthy Procurement Using Government's Purchasing Power to Increase Access to Healthy Food](#); 2011.
  - **Model Contract:** [Model Healthy Municipal Snack and Beverage Vending Agreement](#); 2012.
  - **Exceed | The Tool for Using Healthy Food Service Guidelines** <http://www.exceedtool.com/>; 2016

- **American Heart Association:**
  - **Toolkit:** [Healthy Workplace Food and Beverage Toolkit](#); 2015.
  - **Nutrition Standards:**
    - [Recommended Nutrition Standards for Procurement of Foods and Beverage s Offered in the Workplace](#)
    - [Understanding the American Heart Association Healthy Vending Standards](#)
- **Health and Human Services:** <https://www.cdc.gov/obesity/strategies/food-serv-guide.html>. This webpage contains additional resources not listed below.
  - Centers for Disease Control and Prevention. [Smart Food Choices: How to Implement Food Service Guidelines in Public Facilities](#); 2014.
  - Food Service Guidelines Federal Workgroup. [Food Service Guidelines for Federal Facilities](#); 2017.
    - Nutrition standards on page 13.
  - United States Department of Agriculture. [A Guide to Smart Snacks in School](#); 2016
    - Nutrition standards on page 7.
- **Public Health Law Center:**
  - **Randolph-Sheppard (RSA) Act & Blind Vendors:**
    - [Healthy Vending and the Randolph Sheppard Act](#); 2015.
    - [Mini-Randolph-Sheppard Acts: A 50-State Review](#); 2014
  - **Implementation Resources:**
    - [Key Components of Food Procurement & Vending Policies](#); 2015.
    - [From Small Steps to Big Leaps Promoting Healthy Food & Beverage Choices in Parks & Recreation Facilities](#); 2015
- **Alliance for a Healthier Generation:** [“The Healthier Generation Store”](#) on Amazon
- **Center for Science and the Public Interest:** <https://cspinet.org/protecting-our-health/nutrition/healthier-public-places>. This webpage contains additional resources not listed below.
  - **Model Policy:**
    - [Model Bill: Healthy Vending on Government Property](#)
    - [Model Bill: The Healthy Government Properties Act](#)
  - **Nutrition Standards:**
    - [How to Choose Nutrition Standards for Your state/Locality](#)



- [Comparison of National Vending Machine Standards](#)
- **List of Healthy Snacks:** [Snack, Entrée, and Beverage Options that Meet NANA, AHA, and GSA/HHS Vending Standards](#); 2016.
- **NANA Standards:** [NANA Model Food and Beverage Vending Machine Standards](#); 2013.
- **Implementation Resources:**
  - [Tips for Successful Implementation](#)
  - [Fact Sheet: Healthy Product Supply Chain](#)
  - [Taste-test Protocol](#)
  - [Pre- and Post-Implementation Survey](#)
  - [Financial Implications of Healthy Vending](#); 2017.
  - [Healthier Food Options for Public Places: Frequently Asked Questions](#)
  - [Vendor Fact Sheet: Why Offer Healthier Options?](#)