

Healthy Snack Vending: The Chicago Park District Experience & Resource Guide

November 2012

Authors

Maryann Mason, PhD
Lucy Gomez-Felciano, BFA

Adam B. Becker, PhD, MPH
Christine T. Bozlak, PhD, MPH
Colleen Lammel-Harmon, RD

Veronica Conti, Research Assistant
Stefani Cox, Research Assistant
Elizabeth Katta, MPH, Research Assistant
Megan O'Boyle, MS
Hatidza Zaganjor, Research Assistant

For more information contact:
Maryann Mason: mmason@luriechildrens.org
or
Lucy Gomez-Felciano: lucygomez@lsna.net

Healthy Kids, Healthy Communities
Supporting Community Action to
Prevent Childhood Obesity



Table of Contents

Introduction.....	3
Part I: Chicago Park District Healthier Snack Vending.....	5
Findings summary.....	11
Part II: Healthier Snack Vending Evaluation.....	12
Methods.....	13
Results.....	15
Findings.....	15
Findings Summary.....	20
Part III: Part III: Resources for Healthy Vending.....	22
Conclusions.....	25

Introduction

Obesity is a leading public health problem in the United States, affecting 35.7% of adults and 17% of children between the ages of 2 and 19.¹ In Chicago, the problem is worse for children where 22% of children entering kindergarten and 28% of children entering 6th grade are obese.² The causes of obesity are complex and many factors influence the development of obesity. As a result, multiple interventions in a variety of settings will be needed to reduce and prevent obesity. One obesity prevention strategy endorsed by the National Academies of Science's Institute of Medicine is improving the nutritional quality of foods and beverages sold through vending machines.³

Parks are an important environmental setting for the health and well-being of children. They provide spaces for play and physical activity. Beyond that, parks can play a role in ensuring access to healthy foods and beverages. Indeed, parks are the second largest public feeder of children (after schools), serving 985,000 total meals last summer.⁴ The Chicago Park District (CPD) has become a national leader in healthier snack vending. In April of 2010, the Chicago Park District issued a new Request for Proposals (RFP) for snack vending services setting forth nutritional guidelines limiting serving sizes, calories, sugar, fat and sodium for all items vended through snack vending machines. In August of 2010, the CPD executed a five year contract with a large national vendor for snack vending in accordance with these guidelines, outlined below. 100% of items sold in snack vending machines at park field houses are to meet these nutrition standards:

Improving the nutritional quality of foods and beverages sold through vending machines is an Institute of Medicine recommended obesity prevention strategy.

¹ Ogden CL, Carroll MD, Curtin LR, Lamb MM, Flegal KM. Prevalence of high body mass index in US children and adolescents, 2007-2008. *JAMA*. Jan 20 2010;303(3):242-249.

² Consortium to Lower Obesity in Chicago Children (CLOCC). Prevalence of Childhood Overweight and in Chicago. 2012. Accessed at www.clocc.net on November 26, 2012.

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

1. No more than 250 calories per serving;
2. No more than 42 grams of added sweetener/20 ounces of serving;
3. No more than 35% of calories from fat;
4. No more than 10% of calories from saturated fat;
5. No trans fats;
6. No more than 35% total weight from sugar and caloric sweeteners; and
7. No more than 400 milligrams of sodium per serving.

This report is intended to inform those interested in pursuing healthier snack vending initiatives. Part I is a narrative account of the process the CPD followed to develop, execute and enforce its healthier snack vending efforts. The narrative was written based on accounts from multiple perspectives and when possible verified against documentation of recounted events.

Part II presents results of a two-year evaluation investigating CPD healthier snack vending outcomes from a variety of perspectives including patron and CPD staff attitudes toward healthier snack vending, vending sales and vendor compliance.

Part III provides analysis of a sample of healthy vending initiatives across the United States, comparing scope, mechanisms and outcomes where data are available.

Funding to support this paper came from the **Robert Wood Johnson Foundation's "Healthy Kids, Healthy Communities"** Chicago project, and a seed grant from the **Alliance for Research in Chicagoland Communities (ARCC)**, a program of the Community-Engaged Research Center within Northwestern University's Clinical and Translational Sciences Institute (NUCATS).

In-kind support for research assistants came from the Congressional Hunger Center, Emerson Hunger Fellowship program, the University of North Carolina, Chapel Hill School of Public Health Graduate Program, the DePaul University, Masters of Public Health Program and the NUCATS Community-Engaged Research Center's Community Engaged Research Team Support program (CERTS).

Part I: Chicago Park District Healthier Snack Vending

Nearly eight years ago, Colleen Lammel-Harmon, then a Senior Program Specialist for Fitness in the Athletics unit of the Chicago Park District (CPD) and a registered dietitian passionate about healthy living, saw an opportunity to create healthier environments in parks through improving the nutritional quality of snacks offered in vending machines located in CPD field houses (field houses are park-operated buildings housing park staff and programming). She sent an email to her supervisor asking for an opportunity to promote healthier snack options for patrons through a community outreach initiative the CPD was launching to promote use of its fitness facilities. This began an incremental process which has resulted in the CPD becoming a national leader in the development and implementation of healthy snack vending.

Working with the existing vendor

Ms. Lammel-Harmon contacted the vendor providing snack vending machines to CPD parks. The vendor had a five-year snack vending machine contract with the CPD for providing and stocking 95 snack vending machines located in CPD park field houses throughout Chicago. She requested that fifty percent of snack items stocked in the machines meet healthier nutritional guidelines including limits on calories, sodium, sugar and fat. The vendor was unable to make this shift due to concerns about potential loss of revenue because they did not see a demand for healthier items. Through a series of negotiations between the vendor and Ms. Lammel-Harmon, a verbal agreement was reached that 5 of the total 60 (8.3%) slots in each snack vending machine would be stocked with items from a list of approximately 30 recommended “healthier” snack items developed by Ms. Lammel-Harmon. The list of snack items available was relatively small because at that time (2005-2006) choices were limited for healthier items for snack vending. For example, baked chips were not readily available in single serve sizes.

An opportunity to work with a new vendor

By 2009, CPD was growing dissatisfied with the vendor’s fulfillment of the contract. The vendor did not comply with the contract requiring them to provide the CPD with vending sales reports. Consequently, the CPD has no record of

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

vending sales levels for this time period. For these and other reasons, the CPD decided not to renew the contract. The process of finding a new vendor began. Ms. Lammel-Harmon saw this transition as an exciting opportunity to advocate within the CPD for inclusion of healthier vending practices in the contracting of a new snack vending vendor.

Connecting to resources

Ms. Lammel-Harmon is, and was at that time, an active partner in the Consortium to Lower Obesity in Chicago Children (CLOCC; www.clocc.net) – a nationally-recognized model for comprehensive community-based childhood obesity prevention. Ms. Lammel-Harmon had worked with CLOCC through the Mayor’s Council on Fitness – established in 2002 to promote, encourage and motivate the development of physically active and healthy lifestyles for Chicagoans of all ages on which a CLOCC staff member sits. Since 2006, Ms. Lammel-Harmon has served as the primary CPD representative on the Inter-Departmental Task Force on Childhood Obesity (IDTF), an eleven city agency task force coming together under the leadership of the Chicago Department of Public Health to collaborate on policies for childhood obesity prevention. CLOCC has provided technical assistance to the IDTF since its inception. CLOCC became aware of Ms. Lammel-Harmon’s efforts to improve the nutritional value of snack items sold in CPD park vending machines through her reports at IDTF meetings. Independently, in 2008, the Robert Wood Johnson Foundation invited several Chicago area organizations to collaborate and apply for funding for their 4-year Healthy Kids, Healthy Communities (HKHC) Grant. HKHC is a national program helping communities across the country to reshape their environments to support healthy living and prevent childhood obesity. In December of 2008, CLOCC, the Active Transportation Alliance (ATA), and the Logan Square Neighborhood Association (LSNA) were funded as one of 9 leading HKHC sites. Chicago’s goals were “Park-centric”-focusing on policy and system change objectives: healthier vending contracts, traffic calming (speed reduction) within and around parks, increased healthier food options at park concessions, increased number of edible gardens on park property, and increased use of the park green space among children/families.

The project team expanded to form a leadership team to connect the HKHC work to other efforts in Chicago and

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

nationally and to guide the project's progress toward its objectives. CLOCC, ATA, CPD (Lammel-Harmon) and community organization representatives served on the Leadership Team. Ms. Lucy Gomez-Feliciano, Lead Health Organizer at the LSNA, served as the project director.

Ms. Lammel-Harmon has been instrumental to the HKHC's efforts by connecting the partnership to the right people within the CPD and by being the lead advocate for snack vending, the area in which she had the most influence. The HKHC Leadership Team has been helpful to Ms. Lammel-Harmon's efforts by providing support for her advocacy within the CPD and by providing resources to assist in the healthier vending effort. CLOCC staff led the work plan for the healthier snack vending effort on behalf of the Leadership Team.

Ms. Gomez-Feliciano led efforts to reach out to park CPD staff and to park advisory councils (comprised of community leaders). Ms. Gomez-Feliciano helped the Leadership Team strategize around when and how to reach out to CPD leadership to inform them of opportunities and to ensure accountability.

Developing the RFP

The healthier snack vending work plan identified two concrete products for development: nutritional guidelines and RFP language. While Ms. Lammel-Harmon is familiar with nutritional guidelines, it still took time and research to develop the nutritional guidelines specific to snack vending items. One resource that proved helpful in this was the Fit Pick snack vending nutritional guidelines which Ms. Lammel-Harmon and Ms. Gomez-Feliciano discovered while attending the National Automatic Merchandising Association expo in Chicago. In addition, Ms. Lammel-Harmon reviewed vending standards from the Alliance for a Healthier Generation and the American Heart Association. Ultimately Ms. Lammel-Harmon used a combination of these three sets of nutritional standards to develop the CPD's healthier snack vending guidelines. The guidelines set limits on sodium, sugar, fat, calories and number of calories while also allowing for the inclusion of healthy fat sources such as nuts and seeds.

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

Developing the RFP language was more challenging for Ms. Lammel-Harmon as she had limited experience in this area. Typically, the development of RFP language is tasked to the CPD Departments of Revenue and Purchasing and advised through the Legal and Finance Departments. These departments were not comfortable taking ownership of the RFP language development in the area of nutritional guidelines. However they still led the legal and minority and women-owned business elements of the contract.

Due to restrictions placed on 501.c.3 organizations that prevent them from engaging in lobbying, members of the Leadership Team were unable to assist with the development of RFP language. The Leadership Team did, however, provide feedback regarding what its members considered essential parts of the RFP including: the need for enforcement provisions and requirements for sharing of sales data. One early step in Ms. Lammel-Harmon's research was to review the Chicago Public Schools healthy vending guidelines which provided basic guidance for inclusion of nutritional standards. While helpful, these guidelines did not include enforcement provisions which were deemed important.

Connecting to policy experts

CLOCC was able to connect Ms. Lammel-Harmon to technical assistance available from the National Policy & Legal Analysis Network to Prevent Childhood Obesity (NPLAN). NPLAN provides technical assistance on the development of local policies for obesity prevention, and it is a project of ChangeLab Solutions. NPLAN provided technical assistance to other institutions for the development of healthy vending policies. NPLAN staff provided consultation to CPD staff to identify model RFP language for a new snack vendor contract.

Though the Leadership Team could not provide specific assistance with the RFP development, the team did provide encouragement and moral support for Ms. Lammel-Harmon as she worked to advocate from within the Park District. The process of drafting the RFP language took approximately six months.

In 2010, Ms. Lammel-Harmon was promoted to the Wellness Manager position. Wellness was a newly created free-standing unit which gave her, as Manager, more leverage

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

within the CPD system. As the RFP was ready to launch, Ms. Gomez-Feliciano and Dr. Maryann Mason (CLOCC's Community and Evaluation Research Director) developed a research project to evaluate the CPD healthier snack vending initiative. The research was funded by a seed grant from the Alliance for Research in Chicagoland Communities (ARCC) a program of the Community Engaged Research Center in Northwestern University's Clinical and Translational Sciences Institute. Research began in September 2010.

A new vendor is chosen

A Request for Proposals: Healthy Snack Vending Machines District Wide Specification number: P10037 was released by the CPD on August 4, 2010. A bidder's conference was held in August with 33 vendors attending. A total of five proposals were submitted. In April of 2011 a contract was signed with Compass Group USA. For a copy of the contract see

<http://www.chicagoparkdistrict.com/assets/bidpostingdocuments/P-10037%20Compass%20Group%20USA.pdf>.

The contract covers a five year period (2010-14), however only the first three years (2010-12) are guaranteed. The remaining two years are included as one year extensions based on performance. Notable features of the contract include: the requirement that 100% of snack vending items meet the "healthier guidelines", and a specific schedule of fines for failure to restock and stocking of items outside guidelines.

Compass is the only nationwide vending company in the US and also the oldest and largest vending company operating in the US. Canteen, a vending services company within the Compass Group operates a variety of vending programs including healthy, premium and fresh vending options. For more information on Compass Group USA and Canteen Vending Services see

<http://www.canteen.com/Pages/canteen.aspx?ItemID=2&ParentID=>

In May of 2011 the first four (of an eventual 106) vending machines were installed in four CPD park field houses.

Additional machines were gradually deployed over a 17 month period. Machine deployment was completed in September 2012.

Disseminating the work

Since the contract signing, the Leadership Team continues to support Ms. Lammel-Harmon's efforts through sharing and promoting the effort and its results with HKHC grantees across the country, and organizing a successful local press conference held in June of 2011 which resulted in articles in the local daily newspapers (Chicago Tribune and the Chicago Sun Times) and spots on broadcast news (ABC, NBC). NPLAN has included the Chicago vending story on their website. Additionally, several staff members from CPD, HKHC, and CLOCC have attended parks and recreation organization conferences to present their work on the CPD healthier snack vending initiative and early research results.

In particular, the team's linkages to NPLAN and funding from the Robert Wood Johnson Foundation's HKHC project have been helpful to dissemination efforts. The CPD, CLOCC and Ms. Gomez-Feliciano have received numerous requests for copies of the CPD snack vending RFP through connections made because of the HKHC project. Requests have come from Somerville, Massachusetts, New Mexico HKHC, Seattle/King County, Washington, and a group from New Orleans affiliated with Tulane University. Members of the Leadership Team presented to the other 8 leading site communities of HKHC grantees and to the larger group of 50 grantees regarding their work on healthier vending in the CPD.

Next steps

To ensure that healthier snack vending becomes a permanent practice beyond particular contracts at the CPD, the Wellness Manager is currently drafting a Healthy Food Environment proclamation to go to the Superintendent's office and Board of Commissioners. A proclamation is voted on by the Board of Commissioners and if passed, goes forward as CPD policy.

Other healthier vending policy efforts are active in Chicago. CPS has a revised healthier vending policy. The City of Chicago, with the support of the Chicago Department of Public Health and part of the Healthy Places initiative, is working toward finalizing their healthier snack and beverage vending contract. Next steps are to align healthier snack vending efforts in Chicago to create synergy where possible.

Findings summary

Through detailed review of the CPD healthier snack vending process a number of elements key to its success have been identified. They are:

An internal champion. Ms. Lammel-Harmon played a critical role in: a) identifying the need for healthier snack vending options at CPD parks, b) finding opportunities to pursue the policy within the CPD, and c) taking on the work of developing guidelines and RFP language that could only be done by an internal player. She then went on to create an internal support team from various departments, such as Finance (Jeff Shelhorn and Steve Hughes, CFO), Department of Revenue (Alonzo Williams), Wellness (Meghan O'Boyle), and Community Recreation (Matt Marino).

Flexibility to seize opportunities. A change in vendors which was happening for other reasons provided the opportunity to develop new contract language. The HKHC project funding through the Robert Wood Johnson Foundation allowed other organizations to get and stay involved and also allowed for access to NPLAN consultations as NPLAN was funded to provide technical assistance to HKHC grantees.

Outside advocates. The support of the HKHC team was necessary in order to keep the momentum going throughout the process, especially when internal processes were slow or stalled due to changes in leadership. Outside advocacy helped to engage multiple stakeholders including other advocates, park patrons, park staff and CPD leadership.

Content experts. Necessary expertise came from multiple sources including NPLAN, community organizers, public health experts, nutritionists, the automated vending association and other government entities, such as Chicago Public Schools.

Evaluation. The associated evaluation project allowed for tracking outcomes, behaviors and perceptions needed to evaluate the success of the approach as well as disseminating results from which others can learn.

No one factor led to the success of healthier snack vending at the Chicago Park District. Having champions, opportunities, flexibility, resources and data, all contributed to its success.

Part II: Healthier Snack Vending Evaluation

The evaluation of the CPD healthier park vending initiative was developed and led by Co-Principal Investigators Mason and Gomez-Feliciano. An advisory board guiding the project consisted of representatives from the Chicago Park District, Healthy Kids, Health Communities Leadership Team, the Consortium to Lower Obesity in Chicago Children, and the Chicago Partnership for Health Promotion (CPHP; participated during first year only).

The initial focus of our evaluation of the Chicago Park District's healthier snack vending initiative centered on the development of an intervention for park staff, which is why the CPHP, a provider of nutrition education services, participated in the beginning. The intent was to provide nutrition education to support park staff who would then encourage patrons to try the new healthier snack items. However, as the healthy vending initiative unfolded, the evaluation shifted to understand park patron and staff attitudes toward healthier snack vending, purchasing behaviors, vending sales, and vendor contractor compliance issues. This shift reflected a more informed understanding of the limited role of park staff regarding patron snack choices.

The central questions guiding evaluation of the Chicago Park District healthier snack vending initiative are:

- 1. What are patron and staff reactions to the healthier snack vending items?**
- 2. How have healthier snack vending sales changed during the course of the healthier snack vending contract?**
- 3. What, if any, compliance issues have arisen and how have they been dealt with?**

Methods

The evaluation was approved by the Ann and Robert H. Lurie Children's Hospital of Chicago (formerly Children's Memorial Hospital) Institutional Review Board (IRB# 2011-14384).

The evaluation followed a mixed method design in which multiple methods incorporating quantitative and qualitative data were used to collect data. Qualitative data include: **Semi structured interviews** with park staff with a work assignment at one of 10 sampled CPD parks (out of a total of 106) with a snack vending machine located at their respective field house (worksite) –1 staff member per park was eligible to participate. Participants were recruited from a sign-up list posted at each park. Questions included attitudes toward healthier snack vending, snack vending purchasing behaviors, observations of snack vending machine issues (stocking and functioning), and interactions with park patrons around snack choices. Each interview lasted between 20 minutes to an hour.

Observations of snack vending purchases from vending machines located in the 10 parks in the sample. Observations were varied by day of week and time of day to capture variation in purchasing behaviors. Observations noted item(s) purchased and characteristics of the purchaser including age status (child, teen, young adult, adult), gender, whether purchaser was alone, with child(ren) or with others such as teens, young adults, adults and whether the purchased item was consumed immediately, given to another for immediate consumption, or moved away from the observation site before consumption. Observations were collected in the spring and summer of 2012.

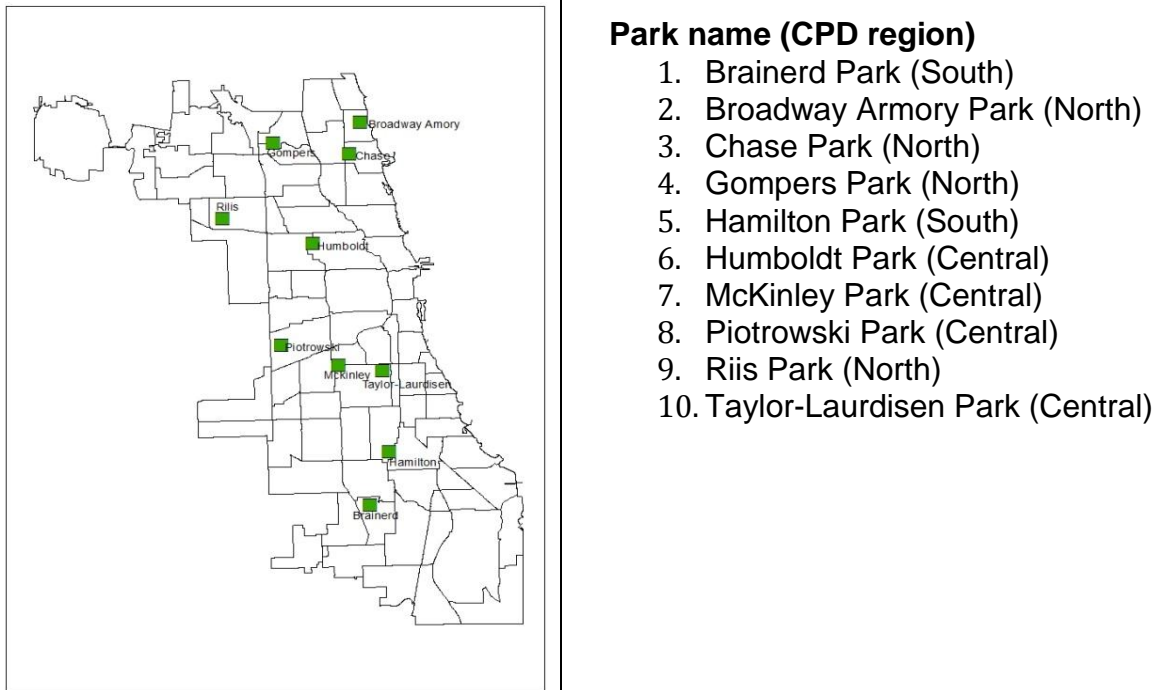
Observations of machine condition (stocking) and functioning at a sub-sample of four of the ten parks in the evaluation sample. Observations were conducted by evaluation team research assistants (RAs) on weekly visits at four parks and by CPD management-level staff during visits to parks for other work duties. Observations were collected periodically from the fall of 2011 through the summer of 2012.

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

Quantitative data include: A 16 question patron interviewer-administered survey fielded at the 10 parks in the sample. Surveys were administered by evaluation team RAs in English with persons 18 years of age and older. Patrons at designated parks were approached and asked to complete a short interviewer-administered survey. The questionnaire assessed how patrons felt about the snacks in the new machines and ways they could be improved. It additionally assessed patrons' current use of park beverage machines and if they were in favor of having healthier beverages in these machines (to inform the development of the new beverage RFP being developed). No incentives were provided for survey completion. Surveys were collected in the summer of 2011 and again in the summer of 2012.

Monthly sales data (dollar amount sold per month) for the period of May 2011 to August 2012. Data were provided via electronic files to the CPD and then transmitted to the evaluation team Research Assistants via email.

Figure 1: Parks in the evaluation sample



Results

A total of **9 park staff** working at one of the 10 CPD parks included in the evaluation were interviewed.

A total of **130 park patron surveys** were completed at the 10 parks sampled during the summers of 2011 and 2012

A total of **26 observations of park vending machine purchases** were conducted at 10 parks. Day of week and time of day of observations were varied to capture a diverse sample of vending purchasing behaviors.

A total of **16 months of sales data** (May 2011 to August 2012) were available for analysis including sales by machine, item and park.

A total of **27 observations of snack vending machine conditions and stocking** were completed from fall 2011 through the summer of 2012.

Findings

Staff and patron perceptions

Staff and patrons had positive attitudes toward healthier snack vending. Patrons overwhelmingly approved of the healthier snack vending items – 88% of those surveyed reported liking the healthier snack vending items.

Moreover, almost all (98%) of those purchasing snacks from the CPD healthier snack vending machines indicated that they would purchase snack vending items again.

The main reason given for disliking healthier snack vending was that patrons found the items not healthy enough.

Almost all (8 of the 9) park-level staff interviewed had tried items from the healthier snack vending machines.

Of those who had tried the healthier snack vending products, all reported liking the products they had tried.

Staff influence on patron snack decisions

Park staff had little influence over patron snack choices

When asked about how and when they interact with patrons regarding snack choices, park staff indicated that they had very little influence over patron choices. Most reported that

The majority of park staff and patrons like the healthier snack vending items.

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

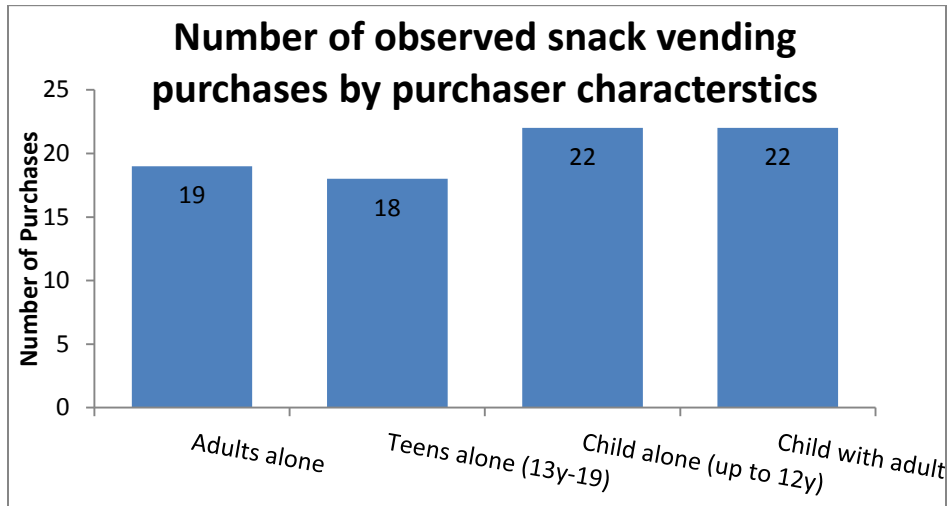
they believed it was up to patrons to choose their own snacks and that they would be uncomfortable suggesting healthier snack options to patrons.

Park interviewed staff reported trying items that were healthier versions of classic items (such as baked chips and lower calorie cookies).

Purchase observations

During the 26 observations at 10 parks, a total of 81 purchases were observed. Adults with a child accounted for 27.2% (n=22) of observed purchases. Purchases by children alone accounted for another 27.2% (n=22) of observed purchases. Together, these two groups made the majority of observed purchases. Teens had the lowest proportion of observed purchases (22%, n=18). Children purchasing snacks tended to purchase items similar to candy (e.g., fruit juice-sweetened gummies).

Chart 1: Number of observed purchases by purchaser characteristics



Approximately 70% of observed vending purchases were consumed at the vending site.

Healthier snack item sales

As reported in the narrative section (Part I) of this report there are no sales data available for the period prior to establishing healthier snack vending, therefore there is no way to track how healthier snack vending sales compare to prior sales. We do, however, assess sales generated by

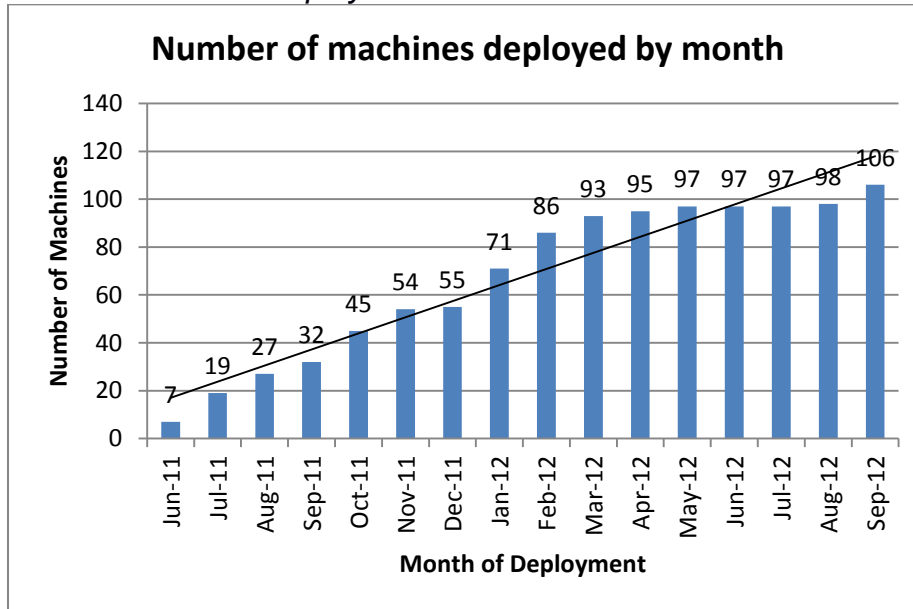
Children are involved in over half (54.4%) of snack vending purchases observed

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

healthier snack vending over time to inform sales expectations as patrons and staff becomes familiar with healthier snack vending options. Since vending machines were deployed over an extended period, sales data should be interpreted on a per machine basis.

Chart 2 below documents the deployment of snack vending machines by month in which they were installed in a CPD field house.

Chart 2: Machine deployment schedule



Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

Chart 3 below depicts average monthly healthier snack sales per machine over the June 2011 to August 2012 period.

Chart 3: Average monthly healthier vending snack sales (per machine)

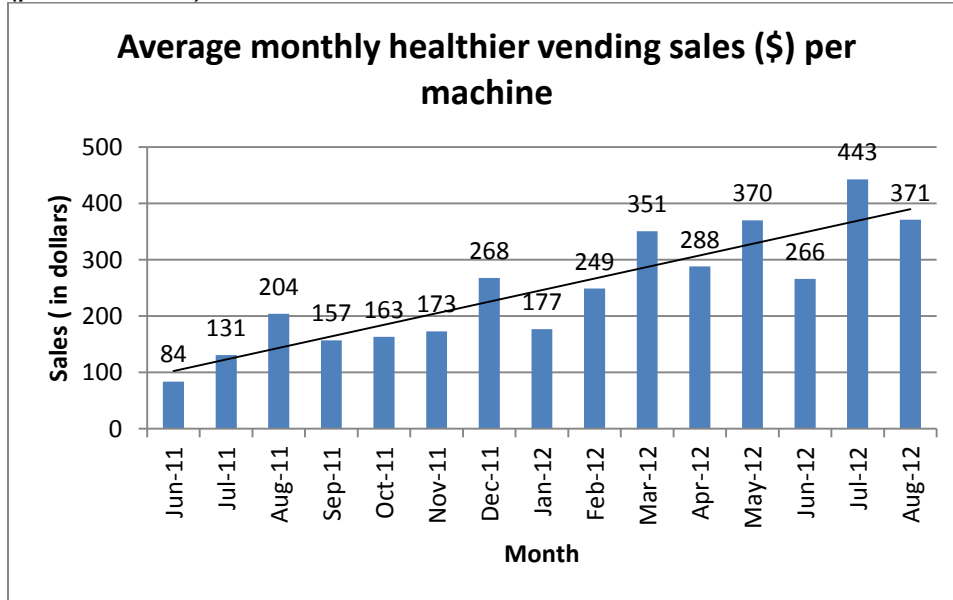
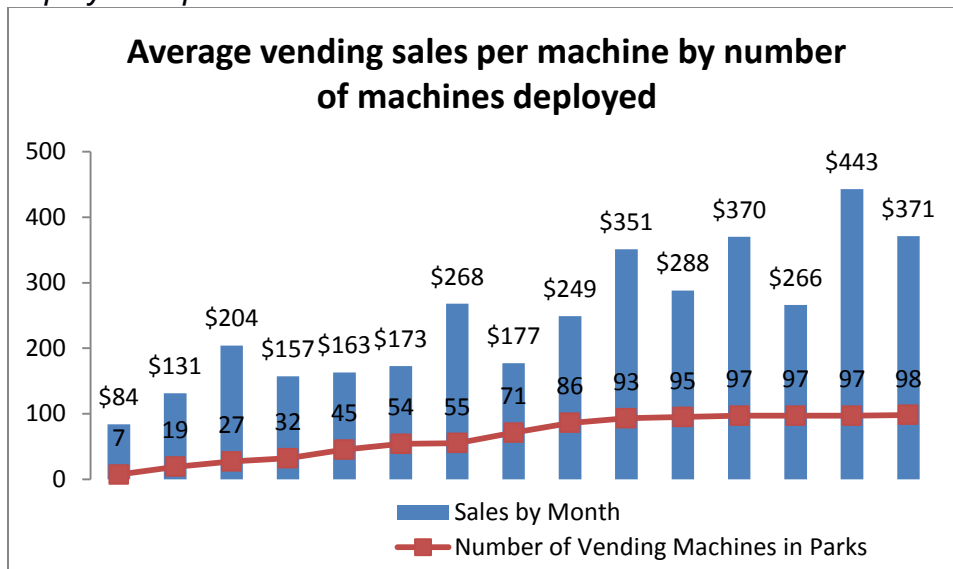


Chart 4: Per machine vending sales over machine deployment period



Snack vending sales have gone up over time.

Generally, sales track with the machine deployment schedule with the exception of large dips in January and June of 2012. To better understand changes in sales over time, information is needed on several aspects of machine operations. One is the extent of stock outs among deployed

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

machines. Stock outs are the proportion of item slots empty at restocking points. If machines are not stocked, items cannot be sold and this affects sales. Other aspects of machine operations that could potentially affect sales are machine malfunction –if a machine is not working, items cannot be sold. These issues are detailed in the Compliance Issues section below.

Compliance issues

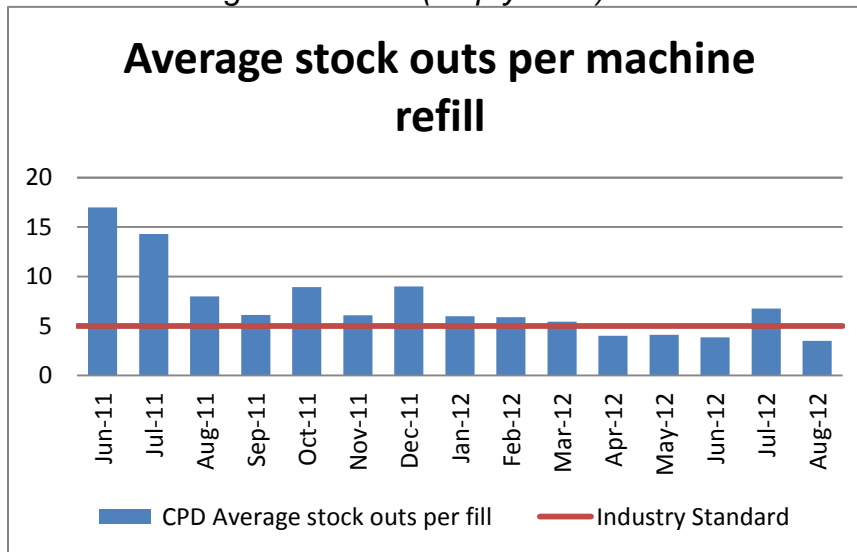
Compliance issues refer to the availability of healthier snack vending items provided through the vending contract. One of the main compliance issues identified is machine restocking – filling the machine with items to vend. Sales data were used to determine restocking compliance.

Restocking of machines is uneven among CPD parks. Some parks reported no problems with the stocking of their machines. Others reported repeated instances of depleted items; the number of machine rows with out of stock items observed ranged from 0 to 21. On average 4 rows per machine were empty due to out-of-stock items.

The following graphs portray inventory stock out, or empty row, patterns. The first graph depicts the average number of stock outs per fill (when the machine was restocked) throughout the Park District from September of 2011 to August of 2012. The black bar notes the industry average (5).

Vendor compliance with machine restocking has been an issue throughout the healthier vending contract period.

Chart 5: Average stock outs (empty rows) at machine refill

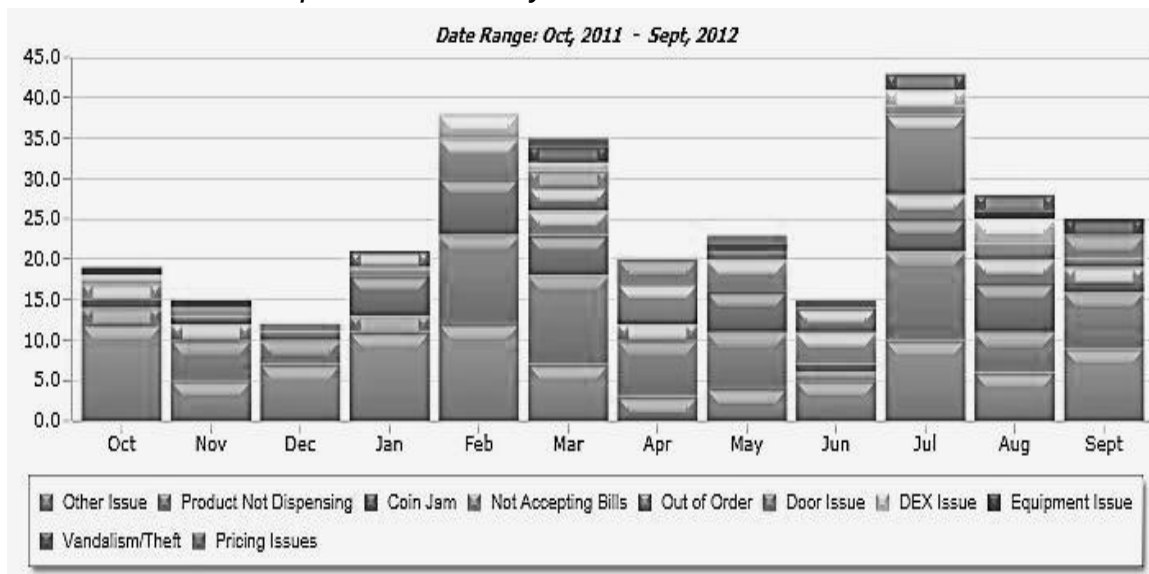


Additionally, assessments of vendor compliance issues were completed using a park audit form developed for the

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

purposes of this project. A total of ten CPD parks were assessed by a CPD staff member over the course of several months beginning in the summer of 2011. Audits evaluated whether vending machine contents met the nutritional standards guidelines, the extent to which machines were fully stocked and whether machines were in good working order. The graph below depicts the frequency of documented complaints among the 10 parks from October 2011 to September 2012. The most common issues included those related to machine function.

Chart 6: Compliance issues by month



DEX=automating inventory reporting error

Again, note the large increase in July of 2012 which may explain some of the large dip in sales for this time period.

Findings summary

The vast majority (88%) of park patrons surveyed like the healthier snack vending items.

Almost all patrons surveyed that have purchased a snack would do so again.

The small group of patrons surveyed that did not like the healthier snack vending items fall into two groups – those who want even healthier items and those who do not like the taste of the healthier items.

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

Park staff interviewed have favorable perceptions of the healthier snack vending items. Park staff interviewed see themselves as having relatively little influence over park patron snack choices.

Overall vending sales of the Chicago Park District have increased over time. Sales volume has been acceptable to CPD leadership.

The main issues with the healthier snack vending machines are items getting stuck in the machines and non-functioning machines.

Failure to adequately stock machines has been an on-going concern in some parks. CPD staff has had to devote time and energy to addressing this with the vendor. Issues such as failure to restock and machine functioning may-be affected sales in months where these are particularly common.

Snack vending purchases observed were mostly made by adults with a child present and children alone. Young adults were observed as least likely to make snack vending purchases.

Part III: Resources for Healthy Vending

The information presented in report sections I and II provides detailed description and outcomes for the CPD's Healthier Snack Vending initiative. In this section, we provide resources for localities considering healthy vending initiatives.

ChangeLab Solutions offers a wide variety of resources for localities considering healthier vending initiatives including school districts and municipalities. Resources include sample healthy vending agreements, model healthy vending language and the toolkit *Making Change: A Guide to Healthier Vending for Municipalities*. These resources are available at <http://changelabsolutions.org>. Search keywords for vending.

The Center for Science in the Public Interest offers many resources grouped under "Healthier Food Choices for Public Places". These include a healthy vending guide and healthy vending guidelines for many municipalities. Fact sheets are available here:

<http://www.cspinet.org/nutritionpolicy/foodstandards.html>

The Association of State and Local Public Health Nutrition Directors offers a variety of resources for healthy vending, including samples of healthy vending campaign materials and a fiscal impact assessment of healthy vending. For more information see:

http://astphnd.org/resource_read.php?resource_id=225&sid=a9cb71&origin=&category=

Information about the Nutritional Environment Measures Survey Vending Tool for assessing vending machine content can be found at: www.nems-v.com.

Table 1: Healthy vending guidelines for selected municipalities

Municipality	Link to healthy vending guidelines/policies
Seattle/King County, WA	http://www.cspinet.org/new/pdf/kc_vending_guidelines.pdf
Boston, MA	http://www.bphc.org/programs/cib/chronicdisease/healthybeverages/Forms%20%20Documents/toolkit/HealthyBeverageToolkitFinal.pdf
Cleveland, OH	http://cccfoodpolicy.org/sites/default/files/resources/healthy_cleveland_resolution.pdf
Contra Costa, CA	http://www.co.contra-costa.ca.us/DocumentView.asp?DID=2089
Monterey, CA	www.co.monterey.ca.us/admin/pdfs/HealthyVendingPolicy.pdf http://publichealthadvocacy.org/PDFs/beverage_policies/MontereyHealthDepartmentNutritionPolicy.pdf
New York, NY	http://www.nyc.gov/html/doh/downloads/pdf/cardio/cardio-vending-machines-bev-standards.pdf http://www.nyc.gov/html/doh/html/cardio/cardio-vend-nutrition-standard.shtml
San Francisco, CA	http://norcalheal.cnr.berkeley.edu/docs/PHLPMobileVendingOrdinanceSummary.pdf
Santa Clara County, CA	http://www.eatbettermovemore.org/sa/policies/pdf/SantaClaraFoodPolicy.pdf www.sccgov.org/SCC/docs%2FSCC%20Public%20Portal%2FAttachments%2Fbeverage_Nutritional_Criteria_18.pdf

In Table 2 below, we present several tables summarizing data we have collected regarding various localities healthy vending initiatives. Data are from interviews with local leaders in healthy vending. Interviews were conducted via telephone in the spring of 2012.

Healthy Snack Vending: the Chicago Park District Experience & Resource Guide

Table 2: Selected information for a sample of healthy vending initiatives

Location	Start	Scope	Lead agency	Snack/ Bev	% healthy items	Outcomes	Obstacles	Strategies
San Diego, CA	2006	Began w/ parks, expanded county wide	Dept. of Parks & Rec & later, Dept. of Health & Human Services	Both	100% rec centers & sports facilities; 50% parks & open spaces	Compliance; Revenue stability for beverages; Small revenue drop for snacks	Securing data to evaluate sales trends; Sites w/ 50% requirement more difficult to enforce	Enforcement Working individually w/ least compliant sites
MPLS, MN	2011 pilot	Parks & Rec	Parks & Rec	Snack	Unknown	Policy not passed, not implemented	Competing priorities have slowed passage	Preparing to implement once policy passes
Kansas City, MO	Pilot in process	City wide (3 pilot sites)	Health Dept.	Both	50%	Implemented in 1 site	Difficulties w/vendor; Concerns re: revenue; Staff complaints	Healthy Vending Transition Team est. to support transition
Seattle, WA	2010 pilot 2011 full	Parks & Rec, >40 sites	Public Health Dept. & Seattle Parks & Rec	Unclear	100%	Revenue stability; families like healthier choices	Complaints about lack of choice	Educating staff; Working w/ vender to slowly offer more healthy items
Arlington, VA	2012	Certain Dept. of Parks, Rec & Cultural Resources facilities	Dept. of Parks, Rec & Cultural Services	Both	100%	Sales improved over time; Parents & young children like; Teens dislike	Finding a vendor; Pricing; Internal opposition re: fear of revenue loss	Clear contract w/ pricing & taste testing; 100% healthy easier; start w/ vendor incentives for meeting priorities

Conclusions

Healthy vending is an obesity prevention/reduction strategy recommended by the Institute of Medicine. Numerous localities throughout the United States are working to bring healthy vending to public spaces. **One key space for reaching the public, and in particular families and children, are parks and recreational facilities.** The Chicago Park District (CPD) has been a leader among parks and recreation departments in its implementation of 100% healthier snack vending. **Observations of snack vending purchases indicate that families and young children are among the top purchasers of snack vending items at CPD parks.** Approaches for other types of environments may be different, for example worksite environments are likely to focus exclusively on adult consumers and may wish to adopt different nutritional guidelines or proportions of products meeting nutritional guidelines.

The results from the CPD's healthier vending initiative have been promising: patrons and staff report liking the healthier offerings and sales have grown over time. Like other localities implementing such efforts, the CPD experienced some issues with finding and working with a vendor willing and able to meet the healthier guidelines. In particular issues around restocking and machine functioning may have affected sales.

We identified **key aspects** of the CPD effort contributing to its success. They include: **an internal champion** pushing for change, the flexibility to take advantage of opportunities, **assistance from outside advocates** with access to resources needed, help from legal, policy and nutritional experts, and **evaluation** to inform implementation and future directions.

Our review of other localities' approaches to healthy vending found that they vary in important ways, including:

- Proportion of healthier items required
- Nutritional guidelines determining healthier items, taking time to taste test some of the items meeting guidelines, and keeping up on trends for new snacks meeting guidelines
- Entities responsible for implementing changes, while being able to reassess and make additional changes as needed
- Mechanisms for establishing healthy vending (e.g., policy vs. contract)
- Use of pricing and incentives
- Scope ranging from all public buildings in counties to selected parks and recreational facilities
- Inclusion of snacks, beverages or both
- Inclusion of signage and promotion
- Implementing some nutrition guidelines/education in program curriculum when available
- Evaluation efforts

This indicates that there is no one way to approach healthy vending and local efforts may be best served by selecting strategies that fit local circumstances.

Descriptions of a sample of healthy vending efforts and links to resources for healthy vending are also included in this paper for reader reference. These resources can provide guidance to those champions pushing for healthy vending as well as reference material for those who are unsure of the benefits and efficacy of this strategy.

We hope that sharing the Chicago Park District's experience with healthier snack vending and data we've gathered from other localities' healthy vending efforts will inform those considering this strategy in their location.

The Chicago Park District (CPD) has been a leader among parks and recreation departments in implementation of 100% healthier snack vending.