Feb 1 2010—Jan 31, 2012

Evaluation of the Good Choice Program: A Vending Machine Intervention in Alabama

Executive Summary

Program Overview

The primary goal of this project was to create a policy that increased availability of healthier food and beverages choice and decreased access to more calorically dense, nutrient poor options sold in vending machines located in public venues. Four state agencies were asked to participate in this pilot project: Alabama Department of Public Health, Governor's Office and Capitol building, Alabama Department of Education and Alabama Department of Agriculture and Industries.

Summary of Key Evaluation Questions and Methods

The evaluation plan was guided by the Social Cognitive Theory. The evaluation of this pilot project uses three data collection methods to assess the four key evaluation questions (see below). Vending machine audits were used to assess compliance to the policy. Sales data were used to assess the impact on the partners' ability to sustain the project after the pilot period. Lastly, an employee survey was used to assess frequency of vending machine use, snacking patterns, and self-efficacy and barriers toward healthy snacking at work. Data were collected at baseline and one year after the implementation of the project. Results were compared.

1. Was the vending machine policy fully implemented?
2. How does the policy impact vending machine sales?
3. How does the environmental change affect employees' perceptions of healthy snacking?
4. How does the environmental change affect employees' snacking patterns at work?

Key Findings and Lessons Learned

Implementation of the Policy. The policy differs based on whether the vending machine was a drink only, snack only or combination machine. For the drink machines, the goal was to have 50% of the slots designated as healthy, or water, juice, and diet soda. Initially, 43.3% of slots were designated for a healthier drink option such as water, 100% fruit juice or water. At follow-up, 49.3% of items in the average cold drink vending machine were "healthy." Empty slots for healthy items on the day of the audit could explain why the goal was not met.

For the snack machines, the policy suggests that 50% of items must meet the following 10-10-5 criteria:

- 10% or less of the Daily Value (DV) of total fat (nuts and fruits are exceptions)
- 10% or less of the Daily Value (DV) of total carbohydrate (nuts and fruits are exceptions)
- 5% or more of the Daily Value (DV) of at least one of the following nutrients: fiber,
- vitamin A, vitamin C, calcium, iron
- 360 mg or less of sodium

At the follow-up audit, 48.5% of the items stocked in the average vending machine met the 10-10-5 criteria when applying the nut/seeds exemption. These items were also located on the "Good Choice" approved snack list. Each healthy item was appropriately marked with the "Good Choice" logo. On the days of follow-up audits, approximately four to five slots were empty in the average vending machine. The lower than expected percentage of items meeting the target could be explained by empty slots that healthy items would occupy.

Sales Data. At the time of the pilot, there was no system in place to identify which snacks were selling so the total sales per machine were used in the calculations and not the sales of the healthy snacks only. The ADRS accounting office created a formula to accurately calculate the comparisons between sales prior to the intervention and sales after the policy was implemented. A loss of sales is noted throughout the first year of the pilot study with the exception of August where a slight increase is reported. In the second year of the project, gains in sales are seen in comparison to the prior year.

Employee Survey. The employee survey was developed based on a valid instrument used by Schunk et al (7) in their work on healthy snacking in the workplace. Measures included frequency of vending machine use, frequency of consumption of nine snack foods and seven beverages, self-efficacy and barriers toward making healthy snack choices, and demographics. Each measure and how it was assessed is listed below. Frequency of vending machine use did not differ between baseline and follow-up. At follow-up, 95.5% of employees could identify the Good Choice slogan and 100% of employees could correctly identify a healthy snack from an unhealthy snack when given two choices. Self-efficacy, or the confidence one has in his/her ability to make a good choice based on the situation, was measured by two scales. Individuals with high scores are self-confident in making healthy snack decisions while individuals with low scores are not as confident. The average score of the self-efficacy questions fell within the middle of the scale indicating that the average employee lacks self-confidence to make a healthy snack choice when it is inconvenient to do so or when stressed and emotional. Scores did not differ significantly between the baseline and follow-up measures. Barriers to healthy snacking were measured with four scales. Statements about barriers to healthy snacking were grouped based on taste, convenience, internal hunger/satiety cues, and knowledge. Scores did not differ significantly between the baseline and follow-up measures, however, slight improvements were seen in availability of healthful snacks and ability to select a healthful snack.

Recommendations

The results of the employee survey reveal that a lack of healthy vending options may be associated with increased reported barriers to healthy snacking among HIGH vending users. These findings support the need to improve workplace vending offerings and highlight a potential opportunity for nutrition education. When the AHVMP was fully implemented, employees reported less barriers to healthy snacking.

The results of the vending machine audits demonstrate the need for healthier snacks for better nutritional quality. The follow up vending machine audits show significant improvements in the

nutrition content which can be attributed to the AHVMP. Employees need to be given opportunities to understand the policy and taste test the new products. When implementing the program, it is also very important to work with employees and vendors to develop a mix of healthy items that will sell in the vending machines.

The sales data clearly show lower sales during the first pilot study year but this could be due to a number of outside influences, including the economy and government staffing lay offs. As the project entered the second year, improvements in sales were noted. This finding suggests that the healthier snacks alone may not have caused the lower sales. No attempt was made to alter pricing strategies to influence the buyer toward the healthier items. Additionally, the product mix of items sold was not available. This information is critical. If assessed early, changes in the healthy items that are sold in the vending machines can be made, which would decrease the financial losses to vendors.

Next Steps

1. A Healthy Campus Plan is currently being developed for the Alabama Department of Public Health at the request of the State Health Officer. These guidelines will incorporate the AHVMP along with other best practices for worksite wellness and will be adopted by the entire agency, including area and county level offices. Upon completion, the Healthy Campus Plan will be shared with other agencies as a model for a healthy work environment.

1. The NPA staff will continue strengthening partnerships with existing partners and building new relationships. Working closely with the private vendors such as Canteen and Buffalo Rock, the AHVMP will continue to expand to hospitals, worksites, universities, and other venues such as manufacturers and large retailers. Canteen Vending Service is using the AHVMP as a marketing strategy to attract new customers and is using the Good Choice materials on their machines in hospitals, state agencies, and city buildings.

2. The NPA staff will continue to have an open line of communication with the Business Enterprise Program in attempts to gain more support in the future from vendors participating in that program.

Intended Use and Users

This report is intended to be used by the Alabama Department of Public Health, Centers for Disease Control and Prevention, stakeholders, partners and any interested parties that would like to engage in a similar project.

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Program Description

Purpose and Goals

The Nutrition and Physical Activity (NPA) Division of the Alabama Department of Public Health in collaboration with the Alabama Department of Rehabilitation Services began the Alabama Healthy Vending Machine Project (AHVMP) in 2009. The project acknowledges the role that health policy may play on individual behavior through changes in the local food environment. This project was an extension of previous measures to improve vending options in Alabama schools. The worksite is an important environment because many adults spend a significant portion of their day at work. Foods available within the work environment may shape the overall food and beverage intake patterns of employees, which impacts their overall health. Most of the research regarding the implications of vending choices on overall diet has been completed with young children and focused on the school setting. Only a handful of studies have assessed the role that healthier vending guidelines have on sales of these items (1,2). These studies found that overall vending sales and frequency of employee use of vending machines were not affected by the policy. However, the nutrient content of the items were dramatically improved. Therefore, interventions that improve choices in vending machines in adult workspaces may help reduce the obstacles to healthy eating and improve employee intake.

The primary goal of this project was to create a policy that increased availability of healthier food and beverages choices and decreased access to more calorically dense, nutrient poor options sold in vending machines located in public venues. Four state agencies were asked to participate in this pilot project: Alabama Department of Public Health, Governor's Office and Capitol building, Alabama Department of Education and Alabama Department of Agriculture and Industries.

Specific Objectives

The original objectives of the project were:

1. By December 2010, educate and assist the following four pilot state agencies to implement a healthy vending machine policy in state level offices: Alabama Department of Public Health, Governor's Office and Capital Building, Alabama Department of Education and Alabama Department of Agriculture and Industries.
2. By December 2011, educate and assist all state agencies to implement a healthy vending machine policy in state level offices.
3. By December 2011, The Governor of Alabama will sign an executive order to implement a healthy vending machine policy in all state and local offices.

Modifications to these objectives were made as the project moved from the planning to the implementation stages. The modified and final objectives of the project were:

1. By December 2010, educate and assist the following four pilot state agencies to implement a healthy vending machine policy in state level offices: Alabama Department of Public Health, Governor's Office and Capital Building, Alabama Department of

Agriculture and Industries, Alabama Department of Rehabilitations Services and the state lab at the Alabama Department of Public Health.

2. By December 2011, educate and assist all state agencies to implement a healthy vending machine policy in state level offices.
3. By December 2011, a recommendation from the ADPH State Health Officer will be requested to implement the Alabama Healthy Vending Machine Project in all ADPH offices statewide.

These modifications to the original objectives were made when the vendor that stocks the vending machines in the Alabama Department of Education opted to not participate in the pilot project. Additionally, the team found out after the fact that changes to policies affecting these specific vendors needs to go through appropriate channels.

Brief Overview of Burden

Data from the 2010 Alabama Behavioral Risk Factor Surveillance System estimates the prevalence of overweight and obesity of the adult population at 37% and 33%, respectively. The prevalence of obesity among Alabama state employees is higher than the overall state estimates or 44% and 48% in 2008 and 2009, respectively. The health and economic consequences of obesity are well documented. State employees who were classified as overweight or obese at a health screening in 2009 had a greater risk for diabetes, hypertension, low back pain, and congestive heart failure. In addition, employees with a Body Mass Index (BMI) of greater than 30 kg/m^2 had much higher medical expenditures than those with a BMI below 30 kg/m^2 (3). Thus, it is important to modify the work environment for these employees to save money within the state employee health insurance program and improve the health of these employees.

Project Team and Partners

The project team includes members of the Nutrition and Physical Activity Division of the Alabama Department of Public Health, leadership at the Alabama Department of Rehabilitative Services, vendors participating in the Business Enterprise Program through Alabama Department of Rehabilitation Services, and evaluators from The University of Alabama. Other partners who were influential in the development and implementation of the project include:

Alabama Department of Rehabilitation Services
Alabama State Department of Education
Governor's Office
Alabama Department of Agriculture and Industries
Alabama Department of Public Health
State Employees Insurance Board
State Obesity Task Force
University of Alabama

Project Implementation and Milestones

Initial Planning

Meetings were held initially to engage stakeholders. Partners met to determine the best course of action and the development of the pilot project. Evaluators met with the partners early to aide in the development of both formative and summative evaluation. Leadership within each state agency initially agreed to participate but the vendors who stocked these buildings also needed to agree to participate. The pilot sites were located in five governmental buildings within the following agencies: Alabama Department of Public Health, state labs of ADPH, Alabama Department of Agriculture and Industries, the Capitol building, and Alabama Department of Rehabilitation Services. Vendors from the Business Enterprise Program, managed through Alabama Department of Rehabilitative Services, stock the vending machines in these buildings. These vendors were included in the meetings, educated on the rationale for the project, and encouraged to participate. Three of the vendors agreed to participate in the project. One vendor is responsible for the machines in three of the above mentioned buildings while the other two vendors were responsible for the machines in one building each. Vendors who agreed to participate in the project signed a contract and agreed to follow the policy.

Policy Development

After initial meetings to discuss the project and recruit vendors, the policy was developed and agreed upon by all parties: The original policy stated that 50% of the snacks in the vending machines will meet the 10-10-5 nutrition standard outlined below.

- 10% or less of the Daily Value (DV) of total fat (nuts and fruits are exceptions)
- 10% or less of the Daily Value (DV) of total carbohydrate (nuts and fruits are exceptions)
- 5% or more of the Daily Value (DV) of at least one of the following nutrients: fiber,
- vitamin A, vitamin C, calcium, iron
- 360 mg or less of sodium

Preferred beverages include pure water, non- carbonated flavored and vitamin enhanced water (without artificial flavorings), 100% fruit and/or vegetable juice (without artificial sweeteners) and diet soda.

NPA staff developed a list of foods and beverages that met the policy and dispensed this list to the vendors to use when stocking the machines.

Baseline Evaluation

Baseline evaluation included three components: vending machine audits, sales data, and an employee survey regarding frequency of vending use, barriers and self-efficacy toward selecting healthy snacks at work. Both the audits and employee surveys were conducted prior to the policy implementation date of October 1, 2010.

Education Component

The NPA staff hosted lunch and learn programs for employees in each pilot agency before the policy was implemented. The audience learned about the importance of making healthy snack choices and the new vending machine policy. They also participated in taste tests of the new products that would be introduced into the vending machines. Lunch and learn sessions were held for employees at ADPH, the ADPH state lab, ADRS, the Capitol, and the Alabama Department of Agriculture and Industries. Sessions were completed twice in each of the agencies and a total of 126 state employees were in attendance. At ADPH, follow up emails were sent out to all employees refreshing their memory on how to choose a healthy snack and reading nutrition facts labels. The template for the lunch and learn presentation is available on the Healthy Vending web site and can be used by any organization to educate employees.

Project Implementation

The pilot study began in October 2010 when the vending machines were initially stocked according to the new policy. Each machine was dressed with promotion materials to identify the healthy snack or beverage with a Good Choice sticker (see below). In addition, posters and table tents were placed in the break rooms to reinforce the message.

Ongoing Communication with Vendors and Employees

NPA staff communicated with the vendors to determine which healthy items were selling. They also helped guide the vendors in their selection of healthy items based on employee feedback. This step was important because the Business Enterprise Program did not have a system that tracks product mix or the amount and type of items sold. It is important to note that many of the vending machines were an older style with a small number of slots. Thus, it was very important to the vendors that the healthy items sold otherwise their sales figures would decrease.

Marketing Campaign

The Good Choice logo was created as a marketing tool for the AHVMP. The logo is a symbol that was created by ADPH graphic artists to identify the healthier snacks in the machines and provide positive messaging about taking steps towards healthy behaviors. The logo was used in education materials such as machine toppers, table tents, flyers, posters, incentives, and handouts. The Good Choice logo is becoming easily recognizable for its association with healthy snacking habits.

A healthy vending machine web page was created and is located on the ADPH main web site. The web page contains information sheets, the snack list and guidelines on the AHVMP. The healthy vending machine toolkit is also on the web page. It was

designed so that any place of business can implement the AHVMP. Downloadable files of all the Good Choice materials are in the toolkit and free to be copied.

In the fall of 2011, a statewide media campaign was launched using the Good Choice logo and supporting messages that emphasize choosing healthier snacks. The campaign consisted of advertisements in six major Alabama magazines: Montgomery Parents, Mobile Parents, Eastern Shore Parents, River Region's Journey and Boom and Auburn-Opelika Parents. Gas pumptoppers (mini billboards) with Good Choice advertisements were placed in 44 gas stations along Alabama's major interstate for five months.

Follow-up Evaluation

The follow-up evaluation included vending machine audits to check for compliance to the policy. Audits were completed in the spring of 2011. Sales data were obtained and changes in sales observed by vendor. A follow-up employee survey was completed in October 2011 to examine changes in attitudes, barriers and self-efficacy toward selecting healthy snacks at work among employees.

Pilot Expansion

Modifications were made to the policy to improve sales and vendor relations. New snacks were tested and put in the machines. Efforts to expand the pilot study began in the Fall of 2011 in three additional agencies: Alabama Department of Senior Services, Farmers Market Authority, and the Montgomery County Health Department. The pilot study expanded in November 2011 to the Alabama Department of Senior Services, Farmers Market Authority, and the Montgomery County Health Department, a county level office of the ADPH. After discussions with partners at ADRS and input from the vendors, the AHVMP was altered to allow more flexibility with the percentage of healthy snacks in each machine. It now states that 25-100% of the machine will contain snacks meeting the nutrition criteria in the policy. Machine audits and lunch and learn programs were also completed in the new pilot agencies and results are being analyzed by the project evaluators. These agencies are not serviced by the ADRS program. Canteen Vending is a new partnership that has developed and they will assist the NPA Division to expand the AHVMP in vending machines they service in public and private facilities.

Reach of the Program

Strategies aimed at changing the environment to improve health should be rated on five qualities: reach, mutability, transferability, effect size, and sustainability. For the purposes of this evaluation, team evaluators were asked to assess reach, or the percentage of the target population that would have received the intervention. The vending machines in each of these government buildings were typically located in employee break rooms. The vending policy changes had the potential to impact all employees working in each of the government buildings. The pilot study was completed in 6 out of the 169 state agencies in Alabama. The number of state employees (excluding school and college personnel) was 37,500 in 2009. The number of employees who work in the pilot study buildings was 1302. Thus, the short-term reach is 3.5% of state

employees. The pilot expansion will take place in three county health departments and eight hospitals, which will affect 180 and 7,541 employees, respectively. When the State Health Officer adopts the policy, 67 health departments across the state will implement the policy affecting their employees and their guests. In addition, employees who received the education component and taste tested the new foods may have adopted new snack and beverage choices for home use that may impact their families. Lastly, the marketing campaign using the Good Choice logo may have been viewed by 107,500 individuals who either read the magazine and 31,006,800 people who visited a participating gas station.

Evaluation

Focus

The evaluation plan was guided by the Social Cognitive Theory. This theory suggests a reciprocal and dynamic relationship between the environment, a person's behavior and their personal attributes. The theory can be used to explain behavior in basic research or used in interventions to change behavior. The theory suggests that environmental factors act independently on individual behavior and through individual personal attributes to promote behavior change or maintain behaviors. The environment also acts upon an individual's personal behaviors directly which may eventually shape personal attributes such as attitudes toward the behavior (4). For the purposes of this evaluation, the environment is defined in terms of the contents of the vending machines. Employee behavior was assessed as frequency of vending machine use and choices. Lastly, perceptions of the individual regarding barriers to healthy eating and their ability to make a better choice were assessed. Figure 1 depicts the logic model that drives the intervention and evaluation of the project.

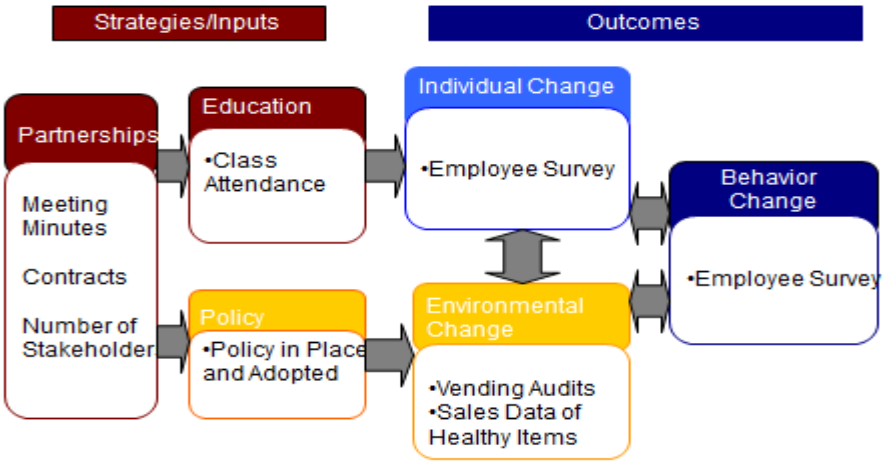


Figure 1: Alabama Evaluation Measures: Use of the Social Cognitive Theory.

Evaluation Questions

1. Was the vending machine policy fully implemented?
2. How does the policy impact vending machine sales?
3. How does the environmental change affect employees' perceptions of healthy snacking?
4. How does the environmental change affect employees' snacking patterns at work?

Evaluation Design

Policy implementation was assessed using a vending machine audit. The contents of the machines were assessed by trained NPR staff members once at baseline and again at follow-up. Baseline measures were used to determine the extent to which the contents of the machines met the recommendations laid out in the policy. The data from the follow-up audit measured compliance to the policy. Sales data were obtained through the Business Enterprise Program. An employee survey was used to assess frequency of vending machine use, snacking patterns, and self-efficacy and barriers toward healthy snacking at work. The employee survey was developed using the Social Cognitive Theory and previously validated instruments. Employees were surveyed prior to the intervention and one year later. Results are compared.

Measures, Data Sources and Methods

Vending Machine Audits

The process of evaluating vending machine contents comprises three steps:
1. Collecting data about the types of foods and beverages sold in vending machines,
2. Retrieving nutrient information for these items, and
3. Classifying these data in some way, often comparing them to specified nutrient standards (5).

Baseline data were collected in the spring of 2010 from all vending machines in the state government office buildings. A paper audit instrument was modified from that described by Samuels et al.(6). The instrument was used to record information for each item, including brand name and detailed description, number of slots devoted to each, size (in grams or ounces), cost, any nutrition messages associated with the product, and any advertising found on or near the vending machine. The total number of slots available and number of empty slots also were recorded for each vending machine. The NPA staff were trained on how to complete the audit forms. Vendors helped to identify the location of all vending machines within each building.

The audit data were entered into the University of Minnesota's Nutrition Data System for Research (NDRS) with each vending machine considered a record. Every attempt was made to match foods by Brand Name. When a brand name match was not available, then foods and beverages were matched to a similar food with the same nutrient profile. When foods or

beverages could not be matched, a request to have the food entered into the NDSR database was made. After entry of all the vending machine data, the audit data were exported to an excel file and imported into SAS v 9.0. The nutrient profile for each food and beverage within a vending machine was compared to the policy. Each item was classified as meeting or not meeting the policy. The proportion of items within each machine that met the policy was calculated. Lastly, each food from the snack machines were placed into one of 15 categories and the frequency of items within each category was reported. These procedures were followed for the follow-up audits and compliance to the policy was assessed.

Sales Data

Each vendor was reimbursed for start-up costs to implement the AHVMP. This included the cost of the healthy snacks and time spent training for the AHVMP and stocking the machines with the new snacks. Monthly vending machine sales data were collected during the pilot study year and compared to the previous year's sales to determine if there were any losses. At the time of the pilot, there was no system in place to identify which snacks were selling so the total sales per machine were used in the calculations and not the sales of the healthy snacks only. The ADRS accounting office created a formula to accurately calculate the comparisons between sales prior to the intervention and sales after the policy was implemented.

Employee Survey

The employee survey was developed based on a valid instrument used by Schunk et al (7) in their work on healthy snacking in the workplace. The evaluators' home Institutional Review Board approved the survey and research methods for both the initial and follow-up surveys. Measures included frequency of vending machine use, frequency of consumption of nine snack foods and seven beverages, self-efficacy and barriers toward making healthy snack choices, and demographics. Each measure and how it was assessed is listed below.

Frequency of vending machine use was assessed by two questions:
"*How often do you buy a beverage from a vending machine at work?"* and
"How often do you buy a snack from a vending machine at work?"

A valid **snack food frequency questionnaire** was used to assess frequency of consumption of nine selected snack items and seven selected beverages.

Responses included: *never, less than once per week, 1-2 days per week, 3-4 days per week, every workday, 2 times per workday, and 3 or more times per workday*.

Two sub-scales were used to measure **self-efficacy**. Responses ranged from "not at all certain" to "very certain" and coded on a five point scale.

- **Negative/Affective Sub-scale:** 7 item scale that measures confidence in making a healthy snack choice under various emotional states.

- **Difficult/Inconvenient Sub-scale:** 4 item scale measuring confidence in making a healthy snack choice when it is inconvenient to do so.

Four sub-scales were used to measure **barriers to healthy snacking at work**. Responses range from "strongly disagree" to "strongly agree" and were also coded to a five point scale.

- ***Taste Barriers:*** Three items were used to measure whether taste of healthy items was a barrier to healthy snacking
- ***Practical Barriers:*** Three item scale used to assess barriers such as cost, convenience, and availability
- ***Internal Cues Barriers:*** Two item scale used to measure whether healthy snacks meet perceived internal cues of satiety and cravings
- ***Awareness Barriers:*** Two item scale used to measure knowledge of healthy snacking as a barrier

Responses range from "strongly disagree" to "strongly agree" and were also coded to a five point scale.

The survey was repeated in its entirety at follow-up with only one slight change. The following question was added to determine the percentage of employees who were familiar with the "Good Choice" marketing materials: "With regard to vending machines, have you ever seen, read, or heard any messages or ads about Good Choice?"

Employees were sent an email invite and encouraged to participate in the study. If the employee decided to participate, then they were asked to read the informed consent and answer questions using an online survey system that is used by the ADPH regularly. Data from the online survey system were converted to excel spreadsheets and then imported into SAS v9.0. Descriptive statistics were computed.

Results and Interpretation

Vending Machine Audit

Compliance to the vending machine policy was assessed using a vending machine audit form. All personnel were trained on how to complete the audit form in March 2010. Audits of all vending machines in the pilot project were completed at baseline in April and May of 2010 and again at follow-up in April and May 2011. The number of vending machines remained the same over the course of the intervention (n=22) but the numbers and type of machines varied across the four intervention sites. Most of the vending machines were found in employee break rooms. Many of these break rooms contained refrigerators, microwaves, and coffee makers. Table 1 describes the types of machines examined.

Table 1: Descriptive Information about the Vending Machines

Environmental Criteria	Baseline N (%)	Follow-up N (%)
Site 2	**11**	**11**
Site 3	**3**	**3**
Site 4	**4**	**4**
Site 5	**4**	**4**
Access		
Employees Only	**22 (100)**	**20 (90.9)**
Employees and Customers	**0**	**2 (9.1)**
Type of Machine		
Combination	**11 (50.0)**	**11 (50.0)**
Drink	**6 (28.2)**	**5 (22.7)**
Snack	**5 (22.7)**	**6 (28.2)**

Advertising on the Front of the Vending Machine

Initially, 18 of the 22 machines had some form of advertisement on the front of the machine. These ads included A DR S (n=1), cold drinks generic (n=3), cold drinks specific such as Coke, Pepsi or Mountain Dew (n=5), and coffee (n=10). On follow-up, only five of the 22 machines contained advertisements and these ads were for the Good Choice Program only.

Nutrition Messages in the Vicinity of the Vending Machines

Prior to the intervention, health or nutrition messages were found in the breakroom or near the vending machines for six of the 22 machines. These messages included "Think your Drink," (n=6), picture of orange juice (n=2), "Take the Stairs," (n=4), ads for the Wellness Department (n=4), restaurant menus tacked to a nearby bulletin board (n=4), and "Control Diabetes." At follow-up, only the "Good Choice" message was displayed in the vending areas.

Content of the Drink Machines

At baseline, six of the 22 machines contained cold drinks only and 11 contained both cold drinks and snacks. These combination machines also dispensed coffee and hot chocolate but these slots were not counted in the audit because they were either not in working order, not filled regularly, or coffee was available from a community coffee pot in the break room. Initially, 43.3% of slots were designated for a healthier drink option such as water, 100% fruit juice or water.

At follow-up, among the 22 machines, six contained cold drinks only and 11 contained a combination of cold drinks and snacks. The goal was to have 50% of the slots designated as healthy, or water, juice, and diet soda. Approximately 49.3% of items in the average cold drink vending machine were "healthy." Empty slots for healthy items on the day of the audit could explain why the goal was not met.

Table 2: Average Percentage of Slots as Stated Item; Drink Machines Only in Public Buildings, Alabama (Baseline and Follow-up)

Criteria	Baseline	Follow-up
	N (SD)	N (SD)
Average Number of Slots	9.5	10.6
Average Number of Empty Slots	1.6	3.2
	N=17	N=17
100% Fruit and Vegetable Juice	4.6	7.3
Fruit Drinks	6.0	0.7
Water	1.8	1.5
Diet Soda	37.0	40.5
Regular Soda	50.6	47.9
Sweet tea	0	0.7
Percentage of slots designated for healthy option (water, juice or diet soda)	**43.3**	**49.3**
Percentage of slots designated for water and juice only	**6.3**	**8.8**

Snack Machines

There were sixteen vending machines stocked with snack items in the pilot test facilities. Eleven of these machines also sold cold and hot beverages. These machines were located in building two only.

Compliance with the 10-10-5 Rule: Contents of the Snack Machines. At baseline, 4.0% of the items sold in the average machine met the 10-10-5 criteria (Table 3). At follow-up, 25% of the items sold in a vending machine were in compliance with the 10-10 5 Rule. Each component of the 10-10-5 Rule improved from baseline to follow-up (Table 2).

Compliance with the 10-10-5 Rule with the Nut Exemption. The policy suggests that 50% of items must meet this criteria. At baseline, 16.7% of items met the 10-10-5 criteria when items with nuts were exempt. At the follow-up audit,48.5% of the items stocked in the average vending machine met the 10-10-5 criteria when applying the nut/seeds exemption. These items were also located on the "Good Choice" approved snack list. Each healthy item was appropriately marked with the "Good Choice" logo. On the days of follow-up audits, approximately four to five slots were empty in the average vending machine. The lower than expected percentage of items meeting the target could be explained by empty slots that healthy items would occupy.

Table 3: Percentage of Items in the Average Machine that Met Policy Stipulations for Nutrient Content of a Vending Item in Public Buildings (Snack Machines), Alabama (Baseline and Follow-up)

	Criteria	Baseline	Follow-up
Number of Snack Machines		**N=16**	**N=17**
Average Number of Options		23.4	23.2
Average Number of Empty Slots		4.6	4.6
Average Percentage of Items that Meet Criteria			
Calories	**≤ 50 kcals**	8.8	1.0
Calories	**≤ 100 kcals**	8.9	6.9
Meets the 10-10-5 criteria		4.0	25.0
Carbohydrate	**≤ 10% DV**	59.8	71.2
Total Fat	**≤ 10% DV**	14.5	31.5
Sodium	**≤ 360 mg**	76.0	81.9
Calcium	**≥ 5% DV**	12.8	15.7
Iron	**≥ 5% DV**	40.8	43.4
Vitamin A	**≥ 5% DV**	0.9	8.3
Vitamin C	**≥ 5% DV**	11.1	11.9
Fiber	**≥ 5% DV**	50.0	58.7
Meets criteria with nut exemption**		16.7	48.5

****Items are listed on the approved snack list based on established criteria.**

Changes Made to the Types of Items Sold in Snack Machines. At baseline, approximately one out of every five items sold in the average snack machine were regular chips while only 0.3% of items were lowfat, reduced fat, or baked chips. At follow-up, the greatest area of improvement was seen in the types of chips sold with 12.5% of items now regular chips and 7.9% of items now baked or lower fat chips. Higher fat baked goods such as danish, doughnuts and cookies were replaced with granola or cereal bars. The percentage of items that were considered chocolate items remained constant (Table 4).

Table 4: Percentage of Items in the Average Machine that Fall Into Specific Snack Categories (Snack Machines), Alabama (Baseline and Follow-up)

	Baseline	Follow-up
	N=16	N=17
	(%)	(%)
Popcorn	4.9	6.9
Fruit	0.1	1.0
Nuts or seeds*	3.6	6.0
Low-fat or non-fat potato chips, tortilla chips, puffs, or corn chips	0.3	7.9
Pretzels	0.2	2.8
Low-fat or low-sugar cookies, brownies, pies, and cakes	2.7	4.4
Granola, granola bar, cereal bar	2.3	9.8
Other salty snacks such as cheese nibs, Chex mix, or Gardetto's	3.1	0.8
Peanut butter or cheese crackers, regular	10.5	6.9
Regular potato chips, tortilla chips, puffs, or corn chips	21.2	12.5
Chocolate candy and chocolate bars	18.0	20.7
Candy, like Jelly Bellies, gummies, and Life Savers	2.0	2.9
Doughnuts, Pop-Tarts, breakfast pastries	6.4	4.5
Cookies, brownies, pies, and cakes, regular	16.0	11.1
Gum	8.6	0.9

*Nuts or seeds,or combinations including trail mix with candy.

Sales Data

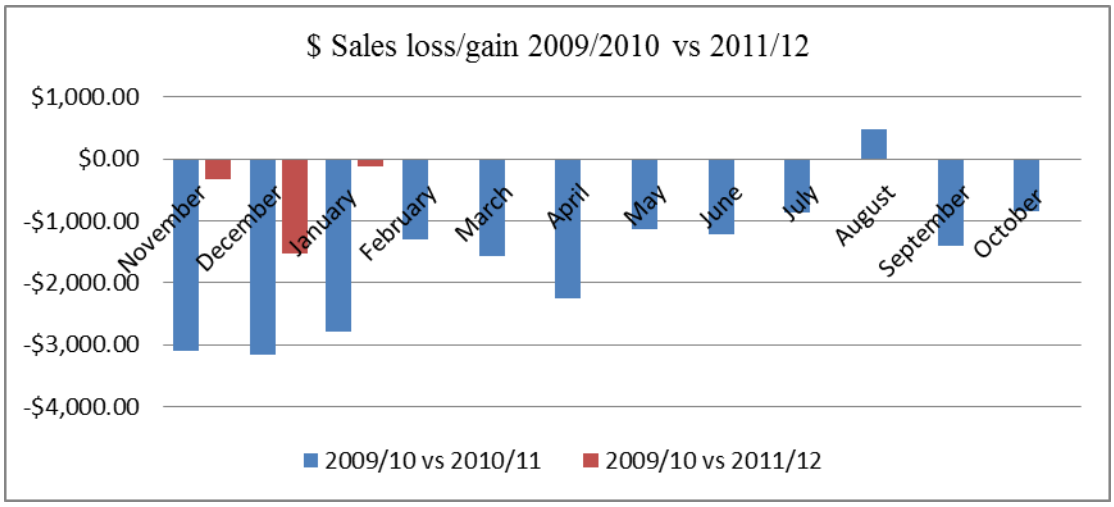
Monthly vending machine sales data were collected during the pilot study year and compared to the previous year's (non-pilot study year 2009-2010) sales to determine if there were any losses. During the second year of the pilot, the monthly sales were compared to the first year of the pilot study (Figure 2) and to the non-pilot study year (Figure 3). At the time of the pilot, there was no system in place to identify which snacks were selling so the total sales per machine were used in the calculations and not the sales of the healthy snacks only. The ADRS accounting office create a formula to accurately calculate the comparisons.

The graphs use figures provided to ADPH in invoices and represent two and four agencies participating in the pilot study which are serviced by one vendor. The sales data from these two agencies were used because a more precise method of record keeping was used by that particular vendor. The other two agencies were removed from this report due to a different style of record keeping which required percentages to be taken based

In Figure 1, the blue bars represent the deviation in sales for buildings A and B (Combined) during the pilot study year compared to the non-pilot year of 2009-2010. The red bars represent the deviation in sales for buildings A and B (combined) during November to January in the

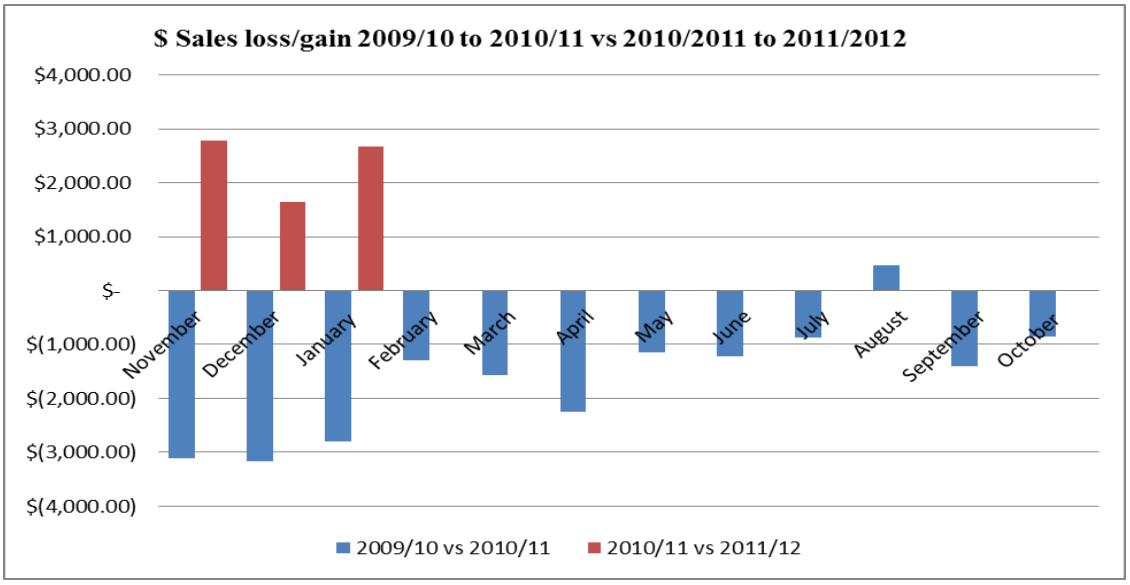
second year of the pilot stud compared to the previous pilot year during the same months. A loss of sales is noted throughout the first year of the pilot study with the exception of August where a slight increase is reported. In the second year of the project, gains in sales are seen in comparison to the prior year.

Figure 2: Sales Loss or Gain by Month



In Figure 3, the red and blue bars represent the deviation in sales in Buildings A and B (Combined) during the pilot study compared to the non-pilot study year 2009-2010. Despite a loss of sales throughout the pilot study, substantial improvements are noted as the intervention progressed.

Figure 3: Sales Loss or Gain by Month



Change in Employee Behavior and Attitudes: Results of the Employee Survey

Table 5 depicts the overall differences in those who completed the baseline and follow-up employee surveys. The populations who completed the survey were similar with one exception. The percentage of employees who described themselves as overweight differed between baseline (63%) and follow-up (82%). However, the percentage of employees trying to lose weight remained the same.

Table 5: Characteristics of Government Employees Before and After a Vending Machine Intervention

	Baseline	**Follow-up**
	n=193	**n=153**
	n (%)	n (%)
Gender		
Male	44 (23)	29 (19)
Female	149 (77)	124 (81)
Race		
White	139 (72)	109 (71)
Black/African American	49 (25)	39 (26)
Other*	5 (3)	5 (3)
Age Category		
23-42 years	67 (35)	48 (31)
43-52 years	53 (27)	37 (24)
53 + years	73 (38)	68 (45)
Self-described weight status		
Underweight/about right	71 (37)	27 (18)
Overweight	122 (63)	126 (82)
Efforts to change weight status		
Lose weight	136 (70)	106 (69)
Gain weight/stay the same	57 (30)	47 (31)
Changed eating patterns to lose weight/health condition	161 (83)	121 (79)
Stage of Change for beverages		
Precontemplation	17 (9)	11 (7)
Contemplation	5 (3)	7 (5)
Preparation	12 (6)	5 (3)
Action	128 (66)	107 (70)
Maintenance	31 (16)	23 (15)
Stage of Change for snacks		
Precontemplation	7 (4)	9 (6)
Contemplation	12 (6)	5 (3)
Preparation	13 (7)	5 (3)
Action	111 (57)	99 (65)
Maintenance	50 (26)	35 (29)

Changes in Vending Use by Employees

Vending use was categorized as LOW (less than one day per week), MODERATE (one to four days/week) or HIGH (five or more days/week). At baseline, the majority of employees who responded to the survey were LOW users of both beverage and snack vending machines (66% and 75%, respectively). Initially, approximately 80% of subjects brought snack foods from home to eat at work. When snacks were purchased at work from alternative sources, 24% and 19% of participants purchased snacks from snack shops within and outside of their buildings. Only 7% and 2% of survey participants were HIGH users of beverage and snack vending machines, respectively.

On follow-up, 80% (n=122) and 77% (n=118) of employees were LOW users of both beverage and snack vending machines, respectively. Only 3% and 1% of employees were HIGH frequency users of beverage and snack vending machines. Approximately 84% of employees brought snacks from home to eat at work. Additionally, 26% and 13% of employees bought snacks from either from snack shops within and outside of their buildings, respectively.

Identification of Good Choice Slogan

Upon follow-up, 95.5% (n=114) of employees could identify the Good Choice slogan.

Changes in Knowledge

Initially, 98% of employees could identify the low salt option from a list of three options. Upon follow-up 100% of employees could identify the correct answer. At baseline, 96% and 70% of employees could correctly identify the highest fiber and lowest calorie items, respectively. At follow-up, the percentage of employees that could correctly identify these items did not change.

Changes in Snack Patterns at Work

After the intervention, the percentage of moderate/high users of salty snacks, sweet pastry snacks, candies, and sugar sweetened beverages decreased while the percentage of moderate uses of low fat snacks, fruit, vegetables, and dairy products increased.

Table 6: Frequency of Consumption of Snack Item and Beverage Items, Employees of Government Buildings

	Baseline	Follow-Up
	Moderate/High (1-or more days /wk) N=193	**Moderate/High (1-or more days /wk) N=153**
	n (%)	n (%)
Less Healthful Snack Options		
Salty Snacks	92 (48)	56 (37)
Sweet Pastry Snacks	48 (25)	25 (16)
Candies	53 (27)	27 (18)
Granola	58 (30)	42 (28)
More Healthful Snack Options		
Low Fat Snacks	51 (26)	53 (35)
Fruit	120 (62)	113 (74)
Vegetables	89 (46)	87 (57)
Regular Dairy Products	64 (33)	62 (41)
Low Fat Dairy Products	76 (39)	72 (47)
Beverages		
100% Fruit Juice	58 (30)	40 (26)
Calorie Free Beverages	140 (73)	122 (80)
Sugar Sweetened Beverages	57 (30)	37 (24)
Sports Drinks	12 (6)	16 (10)
Energy Drinks	4 (2)	3 (2)
Black Coffee	43 (22)	26 (17)
Coffee with Cream or Sugar	72 (37)	51 (33)

Confidence in Making a Healthy Choice

Self-efficacy, or the confidence one has in his/her ability to make a good choice based on the situation, was measured by two scales. The negative/affective scale describes situations where confidence would be altered due to stress and emotions. The difficult/inconvenient scale represents self-efficacy in the face of challenging circumstances. Each item was rated on a 5 point Likert Scale, where 1= not at all confident and 5= very confident. The overall score for each subscale is the sum of all scores in the scale combined. Individuals with high scores are self-confident in making healthy snack decisions while individuals with low scores are not as confident. The average score for most of the self-efficacy questions fell within the middle of the scale indicating that the average employee lacks self-confidence to make a healthy snack choice when it is inconvenient to do so or when stressed and emotional (Table 7). Scores did not differ significantly between the baseline and follow-up measures.

Table 7: Mean Ratings of Employee Self-efficacy Scores

	Baseline	Follow-up
How certain are you that you could choose and eat a healthful snacks:	**Overall Mean (SD)**	**Overall Mean (SD)**
Negative/Affective Subscale (possible 35 points)	**24.0 (8.1)**	**24.5 (8.1)**
When you am bored	3.8 (1.2)	3.8 (1.3)
When you are worried or nervous	3.4 (1.3)	3.6 (1.4)
When you are angry or upset	3.3 (1.3)	3.4 (1.4)
On days when things are not going my way and you feel frustrated	3.3 (1.3)	3.4 (1.4)
When you have a fight with someone close to you and feel upset	3.4 (1.3)	3.5 (1.4)
When you have a tough day and are not feeling good about yourself	3.4 (1.3)	3.4 (1.3)
When you are sad or down	3.4 (1.3)	3.4 (1.3)
Difficult/Inconvenient Subscale (possible 20 points)	**14.1 (3.9)**	**14.3 (4.4)**
When you have to fix healthful snacks for myself	4.0 (1.1)	4.2 (1.1)
When eating a less healthful snack is quicker	3.5 (1.2)	3.5 (1.3)
When mostly less healthful snacks are easy to find	3.5 (1.2)	3.4 (1.3)
When eating a healthful snack is just too much trouble	3.3 (1.3)	3.3 (1.3)

Statements were rated on a 5 point scale where 1 was not at all confident and 5 was very confident. Higher scores represent higher confidence.

Barriers to Healthy Snacking

Barriers to healthy snacking were measured with four scales. Statements about barriers to healthy snacking were grouped based on taste, convenience, internal hunger/satiety cues, and knowledge. Employees rated each of the statements in Table 8 on a five point Likert Scale where strongly agree was 5 and strongly disagree was 1. Again, the overall score for each subscale is the sum of all scores in the scale combined. Thus, higher scores represent greater barriers to healthy snacking. The barriers with the highest average scores were lack of availability and cost. Surprisingly, the average scores for taste were low, suggesting that employees, on average, like the taste of healthy snacks. Scores did not differ significantly between the baseline and follow-up measures, however, slight improvements were seen in availability of healthful snacks and ability to select a healthful snack. .

Table 8: Mean Ratings on Barriers to Healthful Snacking

Barriers	Mean (SD) Before	Mean (SD) After
Taste Barriers (15 points possible)	**5.7 (2.5)**	**5.6 (2.5)**
I don't enjoy the taste of healthful snacks and beverages.	1.9 (1.0)	1.9 (1.1)
Healthful snacks are not salty enough.	1.9 (1.0)	1.8 (0.9)
Healthful snacks and beverages are not sweet enough.	1.9 (1.0)	1.8 (0.9)
Practical Barriers (15 points possible)	**8.7 (2.8)**	**8.1 (3.0)**
Healthful snacks and beverages are not readily available.	3.1 (1.4)	2.7 (1.3)
Healthful snacks and beverages take too long to prepare.	2.4 (1.1)	2.3 (1.1)
Healthful snacks and beverages are too expensive.	3.1 (1.1)	3.1 (1.3)
Internal Cues Barriers (10 points possible)	**4.6 (1.8)**	**4.3 (1.9)**
Healthful snacks and beverages don't satisfy a craving.	2.5 (1.1)	2.3 (1.1)
Healthful snacks and beverages don't give me the energy I need.	2.1 (0.9)	2.0 (0.9)
Awareness Barriers Subscale (10 points possible)	**3.7 (1.6)**	**3.3 (1.5)**
I don't know how to choose healthful snacks and beverages.	1.8 (0.8)	1.6 (0.8)
I don't know where to find healthful snacks and beverages.	1.9 (0.9)	1.7 (0.9)

Conclusion and Lessons Learned

The results of the employee survey reveal that a lack of healthy vending options may be associated with increased reported barriers to healthy snacking among HIGH vending users. These findings support the need to improve workplace vending offerings and highlight a potential opportunity for nutrition education.

The results of the baseline vending machine audit demonstrate the need for healthier snacks for better nutritional quality. The follow up vending machine audits show significant improvements in the nutrition content based on the 10-10-5 nutrition standard which can be attributed to the AHVMP. There were also improvements in the types of chips available with a much higher percentage of low fat, reduced fat, or baked chips after the AHVMP was implemented.

The sales data clearly shows lower sales during the first pilot study year but this could be due to a number of outside influences which are described in the next section of the report. As the project entered the second year, improvements in sales were noted. It should be noted that the participating vendors verbalized a decrease in sales even in buildings that were not participating in the pilot study during the same time period. This suggest that the healthier snacks alone may not have caused the lower sales.

Barriers and challenges

Outside influences – there were multiple outside influences that may have had a negative impact on the AHVMP.

- Economy – a decrease in sales may be due to a nationwide economic decline.
- Lay offs – one pilot agency experienced significant employee layoffs (89 employees) which could have contributed to decreased sales.
- New Governor and Agriculture Commissioner – the project received prior approval and support from the previous leadership, however, in 2010 a new administration was elected into office and established contacts were lost.

Accounting system – due to the unprecedented nature of this project in Alabama, the accounting system to pay invoices from the vendors was not in place and had to be created. This process took longer than expected and caused delays in payment, creating frustration among the vendors. A face to face meeting with accountants from ADPH and ADRS was held and an agreement was reached on accounting methods. The first invoices were processed promptly and there have been no other problems in processing invoices.

Elected Committee of Blind Vendors – the NPA staff was not aware of this committee and their role in policy development. This committee would have been a useful advisor in the early stages of the project. The NPA staff reached out to establish a relationship and gain support the AHVMP. Materials wre provided to be distributed among the committee members.

Agency selection – pilot agencies were selected based on their interest in providing healthy options for their employees and past involvement in worksite wellness programs. As a result, one vendor had the majority of the project responsibility causing a significant increase in his workload. Distributing the locations in the pilot study more evenly among participating vendors would have decreased the burden on one vendor.

Negative perceptions and dissatisfaction – complaints were brought to the vendors and NPA staff initially, even after staff education sessions. It was determined that new snacks that meet the criteria would be selected and offered and additional classes and tastings would be completed.

Successes

Recognition - the AHVMP is recognized as an influential worksite wellness tool and is being recognized as a step in creating healthy environments at work as well as other organizations. It

is also easily recognized by employees who answered the employee survey where 95.5% knew the Good Choice symbol at the follow-up of the pilot study.

New, supportive partners – the AHVMP is embraced by organizations other than state agencies. Entities such as hospitals, private businesses, and large manufacturers have shown interest in implementing the AHVMP. Hospitals are particularly interested in the AHVMP and the program is currently being implemented in eight Alabama hospitals.

Local level support – local health departments are receptive to the AHVMP and are requesting more information as well as presentations on the healthy vending project. Three county health departments are currently implementing the project and more are expected to adopt the policy.

Additional staffing – the ADPH Chronic Disease program received a grant and hired a nutritionist to assist with the sustainability of the AHVMP. The nutritionist is working closely with the NPA staff to continue expanding the policy to other worksites as well as state and local agencies.

Next Steps

3.

1. A Healthy Campus Plan is currently being developed for the Alabama Department of Public Health at the request of the State Health Officer. These guidelines will incorporate the AHVMP along with other best practices for worksite wellness and will be adopted by the entire agency, including area and county level offices. Upon completion, the Healthy Campus Plan will be shared with other agencies as a model for a healthy work environment.

4. The NPA staff will continue strengthening partnerships with existing partners and building new relationships. Working closely with the private vendors such as Canteen and Buffalo Rock, the AHVMP will continue to expand to hospitals, worksites, universities, and other venues such as manufacturers and large retailers. Canteen Vending Service is using the AHVMP as a marketing strategy to attract new customers and is using the Good Choice materials on their machines in hospitals, state agencies, and city buildings.

5. The NPA staff will continue to have an open line of communication with the Business Enterprise Program in attempts to gain more support in the future from vendors participating in that program.

References

1. French SA, Hannan PJ, Stat M, Harnck LJ, Mitchell NR, Toomey TL, Gerlach A. Pricing and availability intervention in vending machines at four bus garages. *J Occup Environ Med* 2010;52(Supp 1): S20. Doi:10.1097/JOM.ob013e3181c5c476.
2. Gorton D, Carter J, Cvjetan B, Mhurchu C. Healthier vending machines in workplaces: both possible and effective. *NZ Med J.* 2010;123:43-52.
3. Alabama State Employee Insurance Board. State Employees Health Insurance Plan: 2009 Worksite Wellness Screening Results. Accessed at https://www.alseib.org/PDF/WellnessScreeningResultsPresentation.pdf on April 27, 2012.
4. Glanz K, Rimer BK, Lewis FM, eds. *Health behavior and health education: theory, research and practice.* 3rd ed. San Francisco: John Wiley and Sons; 2002.
5. Lawrence Bullock S, Craypo L, Clark SE, Barry J, Samuels SE. Food and beverage environment analysis and monitoring system: a reliability study in the school food and beverage environment. *J Amer Diet Assoc* 2010;110-1084-1088.
6. Sauels and Associates. FoodBEAMS. Accessed at http://www.foodbeams.com/ on Arpil 27, 2012.
7. Schunk JM, McArthur LH, Maahs-Fladung CA. Correlates for healthful snacking among middle-income midwester women. *J Nutr Educ Behav* 2009;41:274-280.

Appendices

Appendix A: Audit Form

Directions: Please complete one form for each vending machine you visit.

Your Name: _____ Your position: _____ **Today's date** __/___/___

Step 1: Record the time you visited the machine __:____ AM/PM

Step 2: Circle the day of the week: Monday Tuesday Wednesday Thursday Friday

Step 3: Select the location of machine. Be specific (give floor, room number, etc. if applicable – for example: "first floor lobby")

___(1)Alabama Department of Education _____
___(2)Alabama Department of Public Health _____
___(3)Governor's Office and Capital Building _____
___(4)Department of Agriculture and Industries _____
___(5)Other (describe):_____

Step 4: Who has access to the machine?

____Accessible only to employees ____Accessible to the public and employees

Step 5: What type of machine is this?

____Drinks only ____Snacks only ____Sandwich only ____Combination

Step 6: Count the number of slots available and record the number here _____. (Note: for beverage machines, you may need to count the number of "buttons.") **Count the number of empty slots and record the number here** _____.

Step 7: Count the number of empty slots and record the number here _____.

Step 8: Count the number of rows and place the number here. _____.

Step 9: Describe any advertising on the front of the machine. Please list if the ad is for a specific product.

_____

Step 9b. Is the advertised product available in the vending machine now? (complete only if there is advertising on the machine) YES NO

Step 10: Describe any nutrition messages associated with the vending machines (messages on the items, machine, or surrounding area).

_____

Step10b. Are the items identified in the nutrition messages available in the vending machine? (complete only if there is advertising on the machine) YES NO

Complete the back of this page and return to Teresa Fair, Alabama Department of Health**.**

Complete this portion of the form by describing each item fully.

Brand name, flavor and detailed description of food	# slots devoted to food	Row	Size	Cost	Nutrition Message Associated with Product
Ex. Diet Pepsi, Caffeine Free	2	1	12 ounces	1.00	Yes, Fitpick
Ex. Grandma's Homestyle Chocolate Chip Cookies	8	4	72 g	1.25	No

Thanks for your help. Please return this form to Teresa Fair, RSA Tower Suite 710.

Appendix B – Employee Survey

Work-Time Snack Habits and Vending Machine Use Survey

SNACK HABITS

This first section of the survey focuses on the types of snacks you eat or drink while at work. Please select how often you eat or drink each of the following food or drink items **as snacks at work**. These items include all flavors/varieties (for example, chocolate chip cookies and shortbread cookies would both fall into the "cookies, regular" category).

	Never	Less than once per week	1 or 2 days per week	3-4 days per week	Every workday	2 times per workday	3 or more times per workday
Popcorn							
Regular potato chips, tortilla chips, puffs, or corn chips							
Low-fat or non-fat potato chips, tortilla chips, puffs, or corn chips							
Pretzels							
Other salty snacks such as cheese nibs, Chex mix, or Gardetto's							
Peanut butter or cheese crackers, regular							
Nuts or seeds							
Chocolate candy and chocolate bars							
Candy, like Jelly Bellies, gummies, and Life Savers							
Doughnuts, Pop-Tarts, breakfast pastries							
Cookies, brownies, pies, and cakes, regular							
Low-fat or low-sugar cookies, brownies, pies, and cakes							
Granola or granola bar							
Fruit							
Vegetables							
Yogurt							
Cheese							
Cottage cheese							
Orange juice, apple juice, and other 100% juice							
Fruit drinks such as Snapple and Lemonade							
Sports drinks such as Gatorade							
Low-sugar sports drinks such as G2							
Water							
Flavored waters such as Propel or Vitamin-water							
Diet soda							
Regular soda							
Energy drinks such as RockStar, Red Bull, Monster, and Throttle							
Milk, whole or reduced-fat (2%)							
Milk, low-fat or fat-free							
Coffee, black							
Coffee with cream or sugar							

How often do you buy a beverage from a vending machine at work?
□ Never
□ Less than once per week
□ 1-2 days per week
□ 3-4 days per week
□ Every workday
□ 2 times per workday
□ 3 or more times per workday

How often do you buy a snack from a vending machine at work?
□ Never
□ Less than once per week
□ 1-2 days per week
□ 3-4 days per week
□ Every workday
□ 2 times per workday
□ 3 or more times per workday

If you eat snacks at work but don't buy them from a vending machine at work, from where do you usually get your snack?
□ Home
□ Snack shop at work
□ Store outside of work

NUTRITION INFORMATION
This next section of the survey focuses on selecting healthy snacks. Please read each of the following phrases carefully. In general, if you were given a snack and told it had this quality, would you think it was healthy? Yes or no?

	Yes	**No**
High fiber		
High calorie		
Low in vitamins and minerals		
Low sugar		
High sodium		

Please choose the snack item that is . . .

Lowest in salt
- □ Potato chips
- □ Fresh fruit
- □ Pretzels

Highest in fiber
- □ Pop-tarts
- □ Low-fat cheese
- □ Granola bar

Lowest in calories
- □ Peanuts
- □ Baked chips
- □ Candy bar

THOUGHTS ON SNACKING

A healthy snack is one that is low in fat, sugar, sodium, and calories, and high in fiber, vitamins, and minerals. Examples of healthy snacks include fresh fruit and vegetables, low-fat cheese and other low-fat dairy products, and whole-grain breads.
A healthy beverage would also be one that is low in fat, sugar, and calories. Examples include: water, low-fat milk, and 100% fruit juice. When given a choice, do you currently **usually** choose healthful beverages instead of less healthful beverages?
□ No, and I do not intend to change this within the next six months.
□ No, but I intend to change this within the next six months.
□ No, but I intend to change this within the next month.
□ Yes, and I have started doing so in the last six months.
□ Yes, and I have done so for more than six months.

When given a choice, do you currently **usually** choose healthful snack foods instead of less healthful snack foods?
□ No, and I do not intend to change this within the next six months.
□ No, but I intend to change this within the next six months.
□ No, but I intend to change this within the next month.
□ Yes, and I have started doing so in the last six months.
□ Yes, and I have done so for more than six months.

Please check off how certain you are that you can choose and eat healthful snacks or beverages under each of the following conditions:

How certain are you that you can choose and eat healthful snacks:	**Not at all certain**	**Somewhat uncertain**	**Neither uncertain nor certain**	**Somewhat certain**	**Very certain**
When you are bored					
When you are worried or nervous					
When you are angry or upset					
On days when things are not going your way and you feel frustrated					
When you have had an fight with someone close to you and you feel upset					
When you have a tough day and are not feeling good about yourself					
When you are sad or down					
When you have to fix healthful snacks for yourself					
When eating a less healthful snack is quicker					
When mostly less healthful snacks are easy to find					
When eating a healthful snack is just too much trouble					

Please indicate how strongly you agree or disagree with each of the following statements

	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
I don't enjoy the taste of healthful snacks or beverages.					
Healthful snacks are not salty enough.					
Healthful snacks and beverages are not sweet enough.					
Healthful snacks and beverages are not readily available.					
Healthful snacks and beverages take too long to prepare.					
Healthful snacks and beverages are too expensive.					
Healthful snacks and beverages don't satisfy a craving.					
Healthful snacks and beverages don't give me the energy I need.					
I don't know how to choose healthful snacks and beverages.					
I don't know where to find healthful snacks and beverages.					

DEMOGRAPHICS

This information is being used to describe the group of people who completed the survey. This information will not be used to determine who took the survey.

What is your gender?

□ Male
□ Female

What is your age? _____
How would you describe your race/ethnicity (check all that apply)?

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Hispanic or Latino
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White

In what government building do you work?

- ☐ Department of Education
- ☐ Department of Public Health
- ☐ Capitol
- ☐ Agriculture
- ☐ Rehabilitation
- ☐ Other

How do you describe your weight?

- ☐ Very underweight
- ☐ Slightly underweight
- ☐ About the right weight
- ☐ Slightly overweight
- ☐ Very overweight

What are you trying to do about your weight?

- ☐ Lose weight
- ☐ Gain weight
- ☐ Stay the same weight
- ☐ I am not trying to do anything about my weight

Are you watching what you eat either to lose weight or for some other health-related reason?

- ☐ Yes
- ☐ No

Are you currently pregnant?

A. Yes
B. No
C. Don't Know