

Healthy Vending Guide

You and your organization can play an important role in supporting healthy eating habits by making healthy vending options available and attractive to children, youth and adults. This guide will help you choose healthier products by providing:

- Healthy vending guidelines for food and beverage products,
- Sample policies to support and sustain healthy vending,
- Marketing strategies to promote healthy options.

Why promote healthy vending options?

In 2006, the vending industry generated close to \$14 billion in food and beverage sales. Although vending machines are a popular channel for convenient snack foods and beverages, they are often a source of less-than-healthy products.¹ A great majority of options are high in calories, fat, and added sugars, and low in nutrients. Popular items include candy, soft drinks, chips, cookies and cakes.^{2,3} The prevalence of junk food and sugar-sweetened beverages in vending machines does not support healthy nutritional choices and promotes the consumption of energy-dense foods and beverages, which has been linked to weight gain.⁴

Currently, 40% of Delaware children (ages 2 – 17 years) are overweight or obese, a prevalence that is among the highest in the nation.⁵ Given the widespread nature and potential negative health impact of obesity, it is critical to support healthy habits. Good nutrition is important in maintaining health for all ages⁶; therefore, offering healthy vending options should be a priority. By replacing unhealthy options with more nutritious, healthful foods, your organization can make it easier for children and parents to choose wisely. Establishing nutritional standards for vended products can support healthier eating by increasing access to healthy foods and beverages while still serving the main purpose of bringing in revenue.

How do I know which foods and beverages are good to offer and which are bad?

While Nemours encourages children and families to choose the healthiest foods and beverages most of the time, we do not support labeling foods as “good” or “bad”. We believe that all foods can fit into an overall healthy diet. For that reason, we categorize foods and beverages by their nutrient density as “**GO**,” “**SLOW**” and “**WHOA**”⁷ foods.

- **GO** foods and beverages are the healthiest options for the amount of calories they contain. Eat these foods and drink these beverages most often, almost anytime.
- **SLOW** foods and beverages have added sugar or fat that makes them higher in calories. They should only be consumed sometimes, several times a week at most.
- **WHOA** foods and beverages are the highest in sugar and fat and the least healthy. They should be consumed just once in awhile.

We recommend that organizations make the majority of their vending options **GO** foods and beverages, recognizing there may be a need to offer a smaller selection of **SLOW** and **WHOA** foods and beverages as well. See Appendix A for a list of **GO**, **SLOW** and **WHOA** vending options.

SAMPLE POLICIES

Organizations that serve children and families, such as schools, community centers, and child care facilities, can make it easier for children and families to make healthier food choices by providing healthy food and beverage options in vending machines. Adopting nutritional standards for vending machines as organizational policy is a good place to start. Here are some sample policies to consider. You can adapt them based on your vending offerings. Aim to make 60-100% of your offerings **GO** foods and beverages, 30% or less of your offerings **SLOW** foods and beverages, and keep **WHAO** offerings to 10% or less.

Sample Policy Based on Go, Slow, Whoa⁷

- At (*insert name of your program*), we are committed to helping children grow up healthy. We support your child's healthy food choices by:
 - Making (*insert percentage*) % of our options **GO** or **SLOW** foods and beverages.
 - Limiting **WHAO** foods and beverages to (*insert percentage*) % of our options.
 - Promoting our **GO** options first.
 - Gently encouraging children to try the **GO** options and giving positive reinforcement when they do.
 - Teaching children and parents about **GO**, **SLOW** and **WHAO** options through visual cues.

Sample Policy for Foods

- At least (*insert percentage*) % of our foods meet these nutrition standards:
 - No more than 35% of calories from total fat (not including nuts or seeds)⁶
 - No more than 10% of calories from saturated fat⁶
 - Zero trans fat (≤ 0.5 grams per serving)^{8,9}
 - No more than 35% of calories from total sugars (except yogurt with no more than 30 grams of total sugar per 8 oz. portion as packaged)⁸
 - At least 3 grams of dietary fiber per serving in grain products⁹
 - No more than 200 milligrams of sodium per package⁸
 - No more than 200 calories per portion as packaged⁸

Sample Policy for Beverages

- At least (*insert percentage*) % of our beverages are chosen from this list:
 - Water
 - Fat-free or 1% (low-fat) plain or flavored milk (with up to 150 calories/8 oz.)^{8,10}
 - 100% fruit or vegetable juice (portions limited to 4-8 oz.)^{8,11}
 - No- or low-calorie beverages with fewer than 10 calories/8 oz.^{8,10}
- Beverages with greater than 66 calories/8 oz. are sold in portions of 12 oz. or less^{8,10}

Sample Policy for Pricing and Placement Standards⁶:

- Foods and beverages that meet our nutrition standards must be sold at a price equivalent to or lower than similar items that do not meet the standards.
- Foods and beverages meeting the standards will be placed within the vending machine so that they are visible at eye level.

MARKETING STRATEGIES

How can organizations encourage the selection of healthy vending options?

Organizations can use the traditional marketing “4Ps” of product, promotion, price, and placement.¹²⁻¹⁷

Product

If you have healthy items to choose from, children, youth and adults will make better choices! Most vending products offered are of low nutritional quality.¹ One study surveyed the content of 1,420 vending machines in urban and rural secondary schools across the country. Of the beverages available, 70% were high in sugar, such as soft drinks, fruit drinks, iced tea, and sports drinks. Only 12% of the vending slots were for water and only 5% were for milk, with the majority (57%) of milks offered being either whole or 2% milk. The proportion of snack slots offering nutritious choices was also low (1%).¹²

- **Action Step:** Offer a majority of healthy foods and beverages in your vending machines to make it easier for children and families to make healthy choices.

Promotion

Promotional efforts such as labels and motivational signs on vending machines can increase awareness and selection of healthier foods and beverages.^{13, 14, 15} Prominently marking low-fat food items and “0 calorie, 0 sugar” beverages, as well as their prices, is an effective way to increase the selection of healthy items. Coupling that tactic with a large motivational sign on top of the vending machine encouraging the low-fat food and non-sugar-sweetened beverage selections has proven even more effective. It appears these strategies can bring about better choices without a loss of revenue.^{13, 15} Thus, marketing low-fat items and non-sugar-sweetened beverages specifically can be an effective way to encourage the purchase of healthier vending options, without negatively affecting sales.

- **Action Step:** Use visible prompts in and on vending machines in the form of labels, stickers, and posters to identify and promote healthy options.

Price

Selling healthy vending items at a lower price than other options can be an effective incentive for healthy eating.^{14, 16} A study found that the sale of low-fat snacks increased by 80% during a 3-week period when prices were reduced by 50%.¹⁶ Most importantly, these price reductions did not significantly affect overall vending revenue.¹⁴ Thus, reducing the prices of healthy foods and beverages, or raising the prices of less healthy options, can be another way to promote healthier vending choices.

- **Action Step:** Offer healthy options at a lower price than unhealthy ones.

Placement

The placement of vending products shows promise in increasing healthier purchases. The sales of healthier foods and beverages can be increased by placing them in prime locations within a vending machine.

- **Action Step:** Place healthier options at eye level where they are most noticeable and more likely to be purchased.¹⁷

Applying the “4Ps” of marketing to promote healthier vending options will increase the likelihood that customers will choose them. See Appendix C for examples from around the country.

REVENUE

Can organizations still make a profit from healthy vending options?

Many organizations use revenue generated from vending machines to support their programs and activities. Some fear that sales and profits will suffer if they change their offerings to improve nutritional quality. Although this is a legitimate concern, loss of revenue does not occur in most cases. Many schools across the country—urban, suburban, rural, elementary, middle, and high schools—have successfully switched to offering healthier foods and beverages (cafeteria, à la carte, vending), while maintaining or even increasing revenue.^{18, 19} Although these studies only examined the impact of changes in schools, it is likely that there would be similar results in other settings serving children and youth.

Evidence shows that when more healthful options are offered, students buy them. Many schools have found that they can make as much money, if not more, by selling healthy snack foods and beverages as opposed to less healthy options. The CDC examined 17 schools and districts across the country that improved the nutritional quality of foods and beverages offered through à la carte lines, vending machines, snack bars, and student stores. After making nutritional improvements, most schools and districts increased (71%) or maintained (24%) their revenue, demonstrating that offering healthier items does not adversely affect profits.²⁰ In addition, results from pilot studies conducted in three states (Connecticut, Arizona and California) showed that healthy competitive food does not have to mean less revenue (see Appendix D).²¹⁻²⁴ These studies suggest that organizations can offer healthier food and beverage vending options while continuing to make money. In fact, the change may actually increase profits.

WORKING WITH MANUFACTURERS AND SERVICE OPERATORS

Which manufacturers and vending service operators could we work with to change to healthier food and beverage options?

With the high prevalence of obesity, a greater emphasis is being placed on healthy eating and overall health. It is no surprise then that food and beverage manufacturers and vending service operators are offering healthier product selections to meet demand. Canteen Vending Services, the nation's largest vending machine operating company, has announced plans to offer healthier food choices. Within the next five years, in at least 7,500 vending machines in dozens of cities, they plan to offer 100% better-for-you food choices and to increase the availability of nutritious products by 13%.²⁵ ARAMARK Refreshment Services offers Just4U, a vending program that helps customers identify, purchase and enjoy healthier snacks and beverages. ARAMARK Just4U products contain 100 or fewer calories per serving; no more than 5 grams of fat and less than 30% of calories from fat per serving; and 15 grams of carbohydrates or less per serving; and include water or 100% juice. Just4U options are highlighted with bold product identifiers, and easy-to-understand nutrition information is posted on the vending machine, allowing consumers to quickly and easily find the snacks and beverages that are right for them.²⁶

With the increasing demand for vending products that suit healthier eating habits, food and beverage manufacturers and vending service operators are beginning to understand these needs and striving to offer a wide selection of healthier products. Organizations now have better options when selecting foods and beverages to stock in their vending machines. Make sure to ask about healthy options when you are considering a vending contract, or ask your current vendor to work with you to improve your selection of healthy items!

APPENDIX A

SAMPLE VENDING MACHINE ITEMS CATEGORIZED BY GO, SLOW, WHOA

	GO Almost anytime	SLOW Sometimes	WHOA! Once-in-a-while
Snacks— Non-Refrigerated	<ul style="list-style-type: none"> ▪ Popcorn (fat-free or low-fat) ▪ Whole grain cereal (hot or cold) with at least 5g fiber and no greater than 6g sugar per serving ▪ Whole grain cereal bar ▪ Whole grain crackers ▪ Rice cakes ▪ Soy crisps ▪ Fruit cup in fruit juice ▪ Jerky (low sodium) 	<ul style="list-style-type: none"> ▪ Whole grain cereals (hot or cold) with at least 3g fiber and no more than 6g sugar per serving ▪ Baked chips ▪ Animal crackers ▪ Graham crackers ▪ Pretzels ▪ Nuts and seeds (plain or with spices) ▪ Nuts (light sugar covering or honey-roasted) ▪ Peanut butter and crackers ▪ Ready-to-eat cereal (low fat, whole grain) ▪ 100 Calorie Snack Packs ▪ Fruit cup in light syrup ▪ Whole-grain, low-fat muffins ▪ Low-fat granola bar ▪ Whole-grain, low-fat fig bars ▪ Trail mix (plain) ▪ Dried fruit ▪ Jerky 	<ul style="list-style-type: none"> ▪ Candy ▪ Cookies, cakes, and pies ▪ Doughnuts ▪ Pastries ▪ Muffins ▪ Pop tarts ▪ Buttered popcorn ▪ Chips ▪ Snack mixes ▪ Cheese-flavored crackers ▪ Fruit cup in heavy syrup
Snacks— Refrigerated	<ul style="list-style-type: none"> ▪ Fruits and vegetables without added fat, sugar or salt ▪ Fat-free or low-fat yogurt, plain ▪ Fat-free or low-fat cheese or cottage cheese ▪ Hard-boiled eggs 	<ul style="list-style-type: none"> ▪ Fruits or vegetables with added fat, sugar or salt ▪ Fat-free or low-fat flavored yogurt with no more than 30g of total sugar per 8 oz serving ▪ Low-fat or reduced fat pudding ▪ Reduced-fat cheese or cottage cheese 	<ul style="list-style-type: none"> ▪ Vegetables fried in oil ▪ Pudding ▪ Yogurt made from whole milk ▪ Frozen desserts
Beverages— Refrigerated	<ul style="list-style-type: none"> ▪ Water without flavoring or additives ▪ Fat-free or 1% (low-fat) milk, plain 	<ul style="list-style-type: none"> ▪ Reduced-fat (2%) milk, plain ▪ Fat-free or 1% flavored milk with up to 150 calories per 8 oz serving ▪ 100% fruit juice ▪ 100% vegetable juice ▪ No- or low-calorie beverages with up to 10 calories per 8 oz serving ▪ Smoothies (made with low-fat yogurt or other low-fat dairy alternatives and/or fruit/juice) 	<ul style="list-style-type: none"> ▪ Reduced-fat (2%) milk, flavored ▪ Whole milk, plain ▪ Whole milk, flavored ▪ Regular soda ▪ Sweetened teas, lemonade, and fruit drinks with less than 100% fruit juice ▪ Sports drinks, energy drinks, etc. with more than 10 calories per 8 oz serving

APPENDIX B

Using the sample policies noted earlier in this guide, which are based on expert recommendations, we created a quick reference chart to make it easy to identify foods that meet those recommendations.

1. Find the number of calories on the product's Nutrition Facts label.
2. Find the same number of calories in the "Calories" column on the chart below.
3. Move across the row and compare the numbers in this row for each nutrient (total fat, saturated fat, trans fat, sugar, and sodium) with the numbers for those nutrients on the product's Nutrition Facts label.
4. If the number on the Nutrition Facts Label is the **same as or less than** the number on the chart, the food meets recommendations.

CHEAT SHEET FOR VENDING ITEMS

Calories	Total Fat (9 calories per gram)	Saturated Fat (9 calories per gram)	Trans Fat	Sugar (4 calories per gram)	Sodium
	Grams	Grams	Grams	Grams	Milligrams
75	≤3	≤1	0 calories, ≤ 0.5 g	≤2	≤ 200 mg per portion as packaged
100*	≤4	≤1		≤9	
125	≤5	≤1		≤11	
150	≤6	≤2		≤13	
175	≤7	≤2		≤15	
200	≤8	≤2		≤18	
225	≤9	≤3		≤20	
250	≤10	≤3		≤22	
275	≤11	≤3		≤24	
300	≤12	≤3		≤26	
Calculations	(Total calories x 0.35) ÷ 9 cal/g	(Total calories x 0.10) ÷ 9 cal/g	N/A	(Total calories x 0.35) ÷ 4 cal/g	N/A

*Highlighted row is used in the example below.

Example:

This product has 100 calories. Using the row for 100 calories in the chart above, compare the grams of fat, saturated fat, trans fat, sugar and sodium on this label with the numbers in the chart.

Does the nutrient meet recommendations? Yes No

- FAT – Product label says 1.5g, which is less than the 4g shown in the chart.
- SATURATED FAT – Product label says 0g, which is less than the 1g shown in the chart.
- TRANS FAT – Product label says 0g, which is less than the 0.5g shown in the chart.
- SUGAR – Product label says 12g, which is more than the 9g shown in the chart.
- SODIUM – Product label says 200mg, which is equal to the 200mg shown in the chart.

Does the overall product meet recommendations? No.

Why? Because the product contained too much of one of the nutrients (sugar).

If the product contained only 9 grams of sugar, the same as shown in the chart, would the product then meet recommendations? Yes, because all five nutrients would be within the recommended ranges.

Nutrition Facts		
Serving Size 2 crackers (14g) Servings Per Container About 21		
Amount Per Serving		
Calories 102	Calories from Fat 14	% Daily Value
Total Fat 1.5g	2%	
Saturated Fat 0g	0%	
Trans Fat 0g		
Cholesterol 0mg	0%	
Sodium 70mg	3%	
Total Carbohydrate 20g	6%	
Dietary Fiber Less than 1g	3%	
Sugars 12g		
Protein 2g		
Vitamin A 0% • Vitamin C 0%		
Calcium 0% • Iron 2%		
*Percent Daily values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.		
Calories 2,000 2,500		
Total Fat Less than 65g 80g		
Sat Fat Less than 20g 25g		
Cholesterol Less than 300mg 300mg		
Sodium Less than 2400mg 2400mg		
Total Carbohydrate 300g 375g		
Dietary Fiber 25g 30g		

APPENDIX C

Implementation Of The “4Ps” In Marketing

The following are examples of successful healthy vending programs in schools:

- Venice High School in Los Angeles, California eliminated unhealthy snack and beverage sales on campus. Their vending machines now offer a variety of waters, 100% juices and soy milk, as well as a variety of healthy snacks, including granola and cereal bars. One year later, snack sales were up by over \$1,000 per month compared to the same time the previous year. Two years after the changes, snack sales per month had roughly doubled (\$6,100 in May 2002 compared to \$12,000 in March 2004).¹⁶
- North Community High School in Minneapolis replaced most of the soda in its vending machines with 100% fruit and vegetable juices and water, and slightly reduced the prices of those healthier options. As a result, the sale of healthier items increased with no loss of revenue to the school.¹⁶
- Old Orchard Beach Schools in Maine revised school vending policies to remove sodas and junk foods, and replaced them with water, 100% fruit juices, and healthier snack options. The vending machine signage was also changed to advertise water rather than soda. Since these changes, vending revenues have remained stable.¹⁶
- Vista High School in San Diego County instituted a policy to eliminate junk food vending machine contracts from campus. Healthy vending machines now offer yogurt, fruit/vegetable plates, bagels, and salads. Machines have averaged \$6,000/month profit, which is twice the profit earned under the previous contracts.¹⁸

APPENDIX D

Healthier Vending Options Generate Revenue

The following are examples of pilot studies conducted in several states that demonstrate healthy competitive food does not have to mean less revenue:

Connecticut

Eight schools participated in the Healthy Snack Pilot project, from September 2003 through June 2005. During the first year (2003–04) no schools changed the snack foods offered. During the second year (2004–05), five schools (2 elementary, 2 middle, and 1 high school) followed the Connecticut Healthy Snack Standards, which meant decreasing fats and sugars, increasing nutrient density, and moderating portion size. These schools offered only healthy snack foods, both in vending and à la carte, while the remaining three schools served as comparison schools and did not make any changes. At the end of the second year, the Healthy Snack Pilot showed that revenue for the pilot schools and the control schools were similar. Offering healthy foods did not negatively affect overall school revenue.²¹

Arizona

The Department of Education in Arizona conducted a similar pilot study. A new policy mandated that foods offered during the normal school day meet the Dietary Guidelines for Americans and that no foods of minimal nutritional value could be sold. Financial data were collected two months prior and four months following policy implementation. After the designated schools made healthy changes to their vending, à la carte, and school store food selections, no school demonstrated a negative impact on revenue.²²

California

A pilot project in 16 middle and high schools used nutrition standards that were included in state legislation. These standards mandated that vending and à la carte snack foods could not contain more than 35% of calories from fat, more than 10% of calories from saturated fat, or more than 35% of sugar by weight. Restrictions were also placed on the types and sizes of beverages sold. The criteria were implemented in a pilot project conducted from January 2003 to September 2004. After the nutrition standards were implemented, an 81% increase in gross revenue was observed as compared to the previous school year.²⁴

APPENDIX E

Maximum Portion Sizes

Serving foods and beverages in appropriate portion sizes is important in helping children and families stay healthy. Portion sizes vary by age and gender, so the chart below lists **maximum** portion sizes that should be offered in vending machines. Serving the items listed below in smaller portions is acceptable. Because vended items are primarily snacks, sweets and beverages, they should be offered in small portions containing 200 calories or less per portion as packaged.

Foods²³

Baked chips, popcorn, rice cakes, puffed snacks	1.25 oz.
Crackers, hard pretzels, pita chips, snack mix	1.75 oz.
Peanut butter-filled crackers and cheese-filled crackers	1.5 oz.
Trail mix, nuts, seeds, soy nuts	1.75 oz.
Jerky	1.25 oz.
Cereals	2 oz.
Cookies, animal crackers, graham crackers, cereal bars, granola bars	2 oz.
Bakery items, e.g., pastries, toaster pastries, muffins, bagels, waffles, pancakes, French toast, soft pretzels, rolls	3 oz.
Frozen desserts e.g., ice cream (including novelties), frozen yogurt, Italian ice, sorbets, juice/fruit bars, frozen fruit-based desserts	4 oz. (½ cup)
Pudding, parfaits and cottage cheese	4 oz. (½ cup)
Yogurt and cultured soy	8 oz. (1 cup)
Smoothies (made with low-fat yogurt or other low-fat dairy alternatives and/or fruit/juice)	12 oz. (1.5 cups)
Cheese (low-fat recommended), including natural cheese, pasteurized blended cheese, pasteurized processed cheese, e.g., American	2 oz.
Nut butters, e.g., peanut butter, almond butter, soy butter	2 Tbsp.
Hard boiled eggs	2 eggs
Quality fruits and vegetables (no added fat, sugar, sodium)	4 oz. (½ cup) minimum
Vegetables or fruits with added fat, sugar or sodium	4 oz. (½ cup)
Dried fruit	1.5 oz

Beverages⁸

Elementary schools and settings serving elementary school-aged children should limit portion sizes to:

▪ Water (with no additives)	Unlimited
▪ 100% fruit and vegetable juices with no added sweeteners	4 fl oz. (½ cup)
▪ 1% or fat-free milk (unflavored/flavored)	8 fl oz. (1 cup)
▪ Fat-free or low-fat dairy alternative (lactose-free and soy beverages)	8 fl oz. (1 cup)

Middle and high schools and settings serving middle and high school-aged youth should limit portion sizes to:

▪ Water (with no additives)	Unlimited
▪ 100% fruit and vegetable juices with no added sweeteners	
▪ □ Middle-school aged youth	4 fl oz. (½ cup)
▪ □ High-school aged youth	8 fl oz. (1 cup)
▪ 1% or fat free milk (unflavored/flavored)	8 fl oz. (1 cup)
▪ Fat-free or low-fat dairy alternative (lactose-free and soy beverages)	8 fl oz. (1 cup)

Settings serving primarily adults should limit portion sizes to:

▪ Water (with no additives)	Unlimited
▪ 100% fruit and vegetable juices with no added sweeteners	8 fl oz. (1 cup)
▪ 1% or fat free milk (unflavored/flavored)	8 fl oz. (1 cup)
▪ Fat-free or low-fat dairy alternative (lactose-free and soy beverages)	8 fl oz. (1 cup)
▪ Plain coffee or tea	Unlimited
▪ †No or low-calorie beverages with up to 10 calories per 8 oz	Unlimited
▪ *Beverages with 10-66 calories per 8 oz	16 fl. oz. (2 cups)
▪ *Beverages with greater than 66 calories per 8 oz	12 fl. oz. (1½ cups)

Community settings serving children, youth and adults should limit portion sizes to:

▪ Water (with no additives)	Unlimited
▪ 100% fruit and vegetable juices with no added sweeteners	
▪ □ Elementary and middle-school aged children	4 fl oz. (½ cup)
▪ □ High-school aged youth and adults	8 fl oz. (1 cup)
▪ 1% or fat free milk (unflavored/flavored)	8 fl oz. (1 cup)
▪ Fat-free or low-fat dairy alternative (lactose-free and soy beverages)	8 fl oz. (1 cup)
▪ Plain coffee or tea	Unlimited
▪ †No or low-calorie beverages with up to 10 calories per 8 oz	Unlimited
▪ *Beverages with 10-66 calories per 8 oz	16 fl. oz. (2 cups)
▪ *Beverages with greater than 66 calories per 8 oz	12 fl. oz. (1½ cups)

† **SLOW** beverages, if offered at all, should be limited to the noted portion size.

* **WHOA** beverages, if offered at all, should be limited to the noted portion size.

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