



PUBLIC HEALTH BRIEF

2011 UPDATE

HEALTHIER CHOICES IN SCHOOL VENDING MACHINES: SURVEY RESULTS FROM MAHONING COUNTY SCHOOLS

Background

In its 2004 report of a national survey of school vending machine contents, the Center for Science in the Public Interest (CSPI)¹ observed that:

"Vending machines are prevalent in schools, yet quantitative data regarding their contents are lacking. Such data would be important to have because most children eat diets of poor nutritional quality, with too much saturated fat, sodium, and refined sugars and too few nutrient-rich fruits, vegetables, and whole grains. Those nutrient imbalances can lead to heart disease, high blood pressure, cancer, dental cavities, and other health problems. In addition, children's calorie intake has increased (and they are insufficiently active) and, as a result, rates of overweight in children have increased. While obesity is a complex, multi-factorial problem, over-consumption of soft drinks and snack foods plays a key role."

During the 1999-2000 school-year, sanitarians from the Mahoning County District Board of Health and Youngstown City Health District surveyed the contents of beverage and snack vending machines in a sample of public and parochial schools in Mahoning County. In this survey, the surveyors reported the proportion of beverage vending machine contents represented by milk, water, or pure fruit juice, and the proportion of snack vending machine contents represented by fruit, yogurt or granola bars. A similar survey was again repeated during the 2004-05 school year using a survey design employed by the CSPI in its 2004 national survey. The publication of the 2004 CSPI report afforded the Board of Health the opportunity to measure changes in vending machine contents locally since 1999-2000 and compare local survey results with national benchmarks.

During 2010, sanitarians from the Mahoning County District Board of Health repeated the survey from 2004 in 28 public and parochial schools in Mahoning County, numerating the contents of the beverage and snack machines found in the schools.

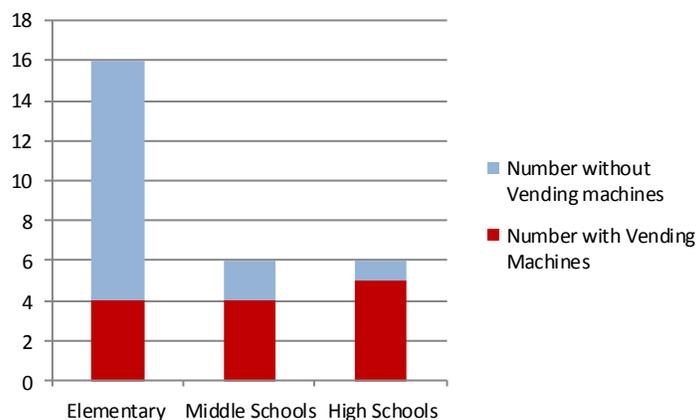
2010 Survey Results

Twenty-eight schools were surveyed enrolling 15,024 students throughout Mahoning County. Sixteen out of the 28 school surveyed (57%) were elementary schools and six each middle and high schools were represented in the survey (21.5% each). Only 13 of the 28 (46.5%) schools had vending machines.

There were a total of 33 vending machines surveyed – 19 of the 33 machines were found in the high schools (57.6%), nine were found in middle schools (27.3%), and only five were found in the elementary schools (15.2%). The majority of the vending machines were observed to be in or near the cafeteria area, with a few in the gym or locker room area. Most of the vending machines

in the lunch area were for lunch only and the students would not have access to them during other hours throughout the school day or after school.

Figure 2: Total Number of Schools Surveyed, by Grade Level Composition



During the initial surveying in 1999-2000, water, milk, or pure fruit juices accounted for only 11% of products in beverage vending machines. Fruit, yogurt, or granola bars accounted for less than 6% of products found in snack vending machines in this survey. As noted in the charts below which presents the findings from surveying the contents of the vending machines in the schools, the proportion of vending machine slots allocated to various beverages and snacks in Mahoning County in 2004-05 were similar with the 2004 CSPI national survey.

In 2010, water, milk, or pure fruit juice accounted for approximately 71% of beverage vending machine slots, *more than doubling* the proportion observed in 2004-05; these beverages accounted for 24% of slots in 2004 CSPI national survey. Sweetened Drinks, like iced tea, lemonade, fruit drinks, and soda accounted for only 11.5% of the filled slots during 2010 as compared to 44% in 2004-05. It was also noted that the number of beverage machine slots filled during the 2010 survey was nearly cut in half (n=426) compared to the 2004-05 survey (n=701), even though a similar number of schools were surveyed.

Table 1: Beverage Vending Machine Contents

<i>Product</i>	<i>Mahoning County (2010) Total of 426 slots</i>	<i>Mahoning County (2004-5) Total of 701 slots</i>	<i>CSPI (2004) Total of 13,650 slots</i>
Water	53.5%	19%	12%
Sports drinks	11%	18%	13%
Iced tea, lemonade, or other sweetened drink	5%	17%	9%
Soda	2.5%	15%	36%
Pure fruit juice	10%	13%	7%
Fruit drinks	4%	12%	13%
Carbonated diet soft drinks	6.5%	1%	6%
Milk	7.5%	<1%	5%

Figure 1: Mahoning County Beverage Vending Machine Content Percentages - 2004 compared to 2010

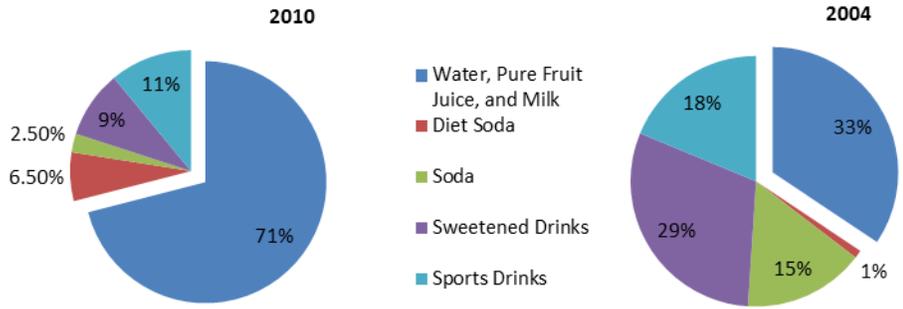


Table 2 presents the findings from surveying the contents of the snack machines. CSPI categorized the following foods as “healthier” options: low-fat chips and pretzels, crackers/Chex Mix, fruits and vegetables, granola bars, nuts/Trail Mix, low-fat cookies and other low-fat baked goods. These foods accounted for 20.6% of the vending machine slots in Mahoning County schools in 2010, which was similar to the findings from 2004-05.

Table 2: Snack Vending Machine Contents

<i>Product</i>	<i>Mahoning County (2010) Total of 97 slots</i>	<i>Mahoning County (2004-5) Total of 353 slots</i>	<i>CSPI (2004) Total of 9,723 slots</i>
Candy	17.5%	19%	42%
Cookies/snack cakes/pastries	22.7%	16%	13%
Regular chips	17.5%	15%	25%
Other food	6.2%	13%*	2%**
Low-fat chips or pretzels	2.1%	10%	5%
Crackers/Chex mix	7.2%	7%	3%
Crackers with cheese or peanut butter	15.5%	3%	5%
Low-fat cookies & baked goods	0%	3%	2%
Granola bars	6.2%	2%	1%
Fruit or vegetable	4.1%	0%	<1%
Nuts/trail mix	1%	0%	1%

* nutritional content could not be determined

** yogurt, smoothies, water, pudding, cereal, string cheese

A la carte snacks and beverages were found in many of the schools that did not have vending machines. Both healthy and unhealthy snacks and beverages were available a la carte during the lunch hour. These items were noted by one surveyor but not counted in the survey totals.

Conclusion

Surveyors found a significant increase in healthier beverage vending machine options (water, milk, or pure fruit juice), increasing from 11% to 71% during the ten-year interval between surveys of Mahoning County schools. Although this increase was impressive, surveyors also noted that schools had fewer vending machines. This observation raises some concern that less healthy beverages and snacks may still be available in school through other outlets (such as a la carte sales and fundraisers). No improvements in snack vending machine options were observed

as the number of low-fat chips, pretzels, crackers, fruits and vegetables, granola bars, nuts, and other low-fat baked goods decreased from 22% in 2004-05 to 20.6% in 2010.

In June, 2010, the State of Ohio passed SB 210, also known as *the Healthy Choices for Healthy Children's Act*. The passage of this bill takes steps towards combating the childhood obesity problem in the school environment by restricting the sale of certain foods and beverages to students. Prior to the passage of this bill, the Center for Science in the Public Interest (CSPI) rated the school nutrition policy in the state of Ohio an "F". According to the "State of School Foods Report Card 2007" from CSPI, "Only twelve states (24%) have comprehensive school food and beverage nutrition standards that apply to the whole campus and the whole school day at all grade levels. More often states have school nutrition standards that only apply to foods and beverages sold in the cafeteria during the meal periods, or that apply only to foods and beverages sold up until the end of the last lunch period." Ohio received the failing grade for previously only following USDA regulations which prohibit the sale of "foods of minimal nutritional value" (FMNV) during meal times in areas of school where USDA school meals are sold or eaten. FMNV include chewing gum, lollipops, jelly beans and carbonated sodas. Many junk foods, such as chocolate candy bars, chips, and fruit drinks are not considered FMNV and therefore are allowed to be sold in the school cafeteria during meal times.²

Ohio's *Healthy Choices for Healthy Children's Act*³ will place restrictions on the sale of certain foods and beverages to schools which must be observed during the regular school day, as well as during periods before or after the school day in which students are participating in school-sponsored extracurricular activities, or during academic, enrichment, or latchkey programs. These restrictions on the beverage vending machines prohibit the sale of non-diet soda and stipulate that at least 50% of the beverage items must be water or other beverages that contain no more than 10 calories per 8 ounces. The bill details allowances on milk and juice as well as caffeinated beverages and beverages with added sweeteners, carbonation, or artificial flavoring. Looser restrictions apply to high schools compared to schools composed of primarily of grades K-4. For determining nutritional values of snack foods available for sales, the schools will be provided with software that will rate the healthiness of foods based on nutrient density. A school is not to sell foods that are in the lowest rated category and eventually at least 40% of the food items available during the restricted periods through the school food service program, vending machines, and school store, must be in the highest rated category of foods.

Childhood obesity will continue to be an important public health issue throughout the coming years. In addition to the state legislation restricting the vending machine contents, federal legislation was also passed in December 2010. The federal legislation, known as the *Healthy, Hunger-Free Kids Act*⁴, will also develop nutritional guidelines for a la carte items, vending machines, school stores and other competitive foods (section 208) and will make nutritional information more accessible to parents. In future iterations of this survey we will attempt to assess the impact of these federal and state policy changes on food options in the school environment.

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We wish to express our gratitude to the Registered Sanitarians at the Mahoning County District Board of Health for their assistance in conducting this survey.

For more information about this survey of school vending machines, please contact Tracy Styka, Mahoning County District Board of Health at 330-270-2855 ext. 109 or tstyka@mahoninghealth.org.

¹ Center for Science in the Public Interest. Dispensing Junk: How School Vending Undermines Efforts to Feed Children Well. May 2004. www.cspinet.org/new/pdf/dispensing_junk.pdf

² Center for Science and Public Interest. *State School Foods Report Card 2007*. November 2007. www.cspinet.org/nutritionpolicy/ImproveSchoolFoods.html

³ Legislative Service Commission. Analysis-SB210-Final: Restrictions on Food and Beverage Sales in Schools. Laws, Acts, and Legislation. www.legislature.state.oh.us/analyses.cfm?ID=128_SB_210&ACT=As%20Enrolled

⁴ *The Healthy, Hunger-Free Kids Act: A Bakers Dozen of Frequently Asked Questions*. (12/2010). 2010 Child Nutrition Reauthorization. www.schoolnutrition.org/content.aspx?id=2402. (3/2011)