



**Mahoning County**

## ***DISTRICT BOARD OF HEALTH***

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

**Introduction** – In its 2004 report of a national survey of school vending machine contents, the Center for Science in the Public Interest (CSPI)<sup>1</sup> 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.”*

In school year 1999-2000, the District Board of Health – on behalf of the *Healthy Valley Alliance* - surveyed the contents of vending machines in Mahoning County schools in support of the *Alliance’s* goal of improving nutrition and physical activity in Mahoning County schoolchildren.<sup>2</sup> The publication of the 2004 CPSI 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.

#### **Methods**

1999-2000 survey - Sanitarians from the District Board of Health and Youngstown City Health District surveyed the contents of beverage and snack vending machines in a convenience sample of 26 public and parochial schools in Mahoning County during the 1999-2000 school year. 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**.

2004-2005 survey - Sanitarians from the District Board of Health, Youngstown City Health District, and Struthers City Health District resurveyed these 26 public and parochial schools during the 2004-2005 school year using the survey design employed by the Center for Science in the Public Interest in its 2004 national survey (see Appendix A for the survey form).

#### **Results**

1999-2000 survey - Water, milk, or pure fruit juices accounted for **11%** of products in beverage vending machines in the 1999-2000 survey. Fruit, yogurt, or granola bars accounted for less than **6%** of products found in snack vending machines in this survey.

2004-2005 survey - In the 2004-2005 survey the proportion of vending machine *slots* allocated to various beverages and snacks was reported consistent with the CPSI survey method. The results from the local school survey and the CPSI 2004 national survey are presented in Tables 1 and 2.

**Table 1: Beverage Vending Machine Contents**

<i>Product</i>	<i>Mahoning County (2004-5) Total of 701 slots</i>	<i>CPSI (2004) Total of 13,650 slots</i>
<b>Water</b>	<b>19%</b>	<b>12%</b>
Sports drinks	18%	13%
Iced tea, lemonade, or other sweetened drink	17%	9%
Soda	15%	36%
<b>Pure fruit juice</b>	<b>13%</b>	<b>7%</b>
Fruit drinks	12%	13%
Carbonated diet soft drinks	1%	6%
<b>milk</b>	<b>&lt;1%</b>	<b>5%</b>

**Water, milk, or pure fruit juice** accounted for approximately **33%** of beverage vending machine slots in the Mahoning County schools surveyed in 2004-2005, **triple** the proportion observed in 1999-2000; these beverages accounted for **24%** of slots in CPSI national survey. Due to differences in survey methods used, results from the 1999-2000 and 2004-2005 Mahoning County school surveys of snack vending machines cannot be compared with each other.

**Table 2: Snack Vending Machine Contents**

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

\* nutritional content could not be determined

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

CPSI categorized these foods as “healthier” options: **low-fat chips, pretzels, crackers, Chex Mix, fruits, vegetables, granola bars, cereal bars, nuts, Trail Mix, low-fat cookies, and other low-fat baked goods**. These foods accounted for **22%** of the vending machine slots in Mahoning County schools in 2004-2005 and **12%** of the slots in the CPSI national survey.

**Conclusion** – Healthier beverage vending machine options have increased significantly (tripling from 11% to 33%) during the five-year interval between surveys of Mahoning County schools. In addition, the proportion of healthier beverage selections in local schools in 2004-2005 was larger (33%) than the proportion reported in the CPSI nationwide survey in the same school year (24%). Although it is not possible to measure changes in snack vending machine contents in Mahoning County schools over the past five years because of survey design changes, the finding that healthier snacks accounted for almost twice the proportion of vending machine contents in Mahoning County schools (22%) than in the CPSI nationwide survey (12%) is noteworthy.

In the face of growing public concern about the increasing prevalence of obesity in American children, public health and educational officials, political leaders and parents have begun to scrutinize the nutritional quality of foods and beverages available in our schools. In 2004, the American Academy of Pediatrics noted that between 56% and 85% of children in school consume at least one soft drink daily, and that each 12-ounce sugared drink consumed daily has been associated with a 60% increase in the risk for obesity.<sup>3</sup>

The Academy has recommended that school districts work to *eliminate sweetened drinks in schools and provide healthful alternatives such as real fruit and vegetable juices, water, and low-fat white or flavored milk.*

The Academy also recommended that pediatricians, parents, school officials, food service representatives, school nurses, dietitians, and dentists should become involved in *school health advisory councils* created to help create, *inter alia*, sound policies for food service and food sales in our school districts. The federal requirement that schools develop health and wellness policies by the start of the 2006 school year has added emphasis to this growing concern.

To assist local school districts interested in evaluating the contents of school vending machines, we offer this list of healthy options for vending machine contents from *Healthy Ohioans*, Ohio's statewide initiative for promoting healthy behavior and environments for children and adults.<sup>4</sup>

### ***Healthy Options for Vending Machines***

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| <ul style="list-style-type: none"> <li>- Fresh fruits and vegetables</li> <li>- Fruit bowls (other canned fruit packaged in water)</li> <li>- Pretzels (rods, twists, etc.)</li> <li>- Unsweetened applesauce</li> <li>- Pita snacks</li> <li>- Soups, broth based</li> <li>- 100% vegetable juice</li> <li>- 100% orange or apple juice or 100% juice "blends"</li> <li>- Skim milk</li> <li>- Diet beverages</li> <li>- Unsweetened teas</li> </ul> | <ul style="list-style-type: none"> <li>- Chex Mix: traditional</li> <li>- Baked Doritos, Lays, Ruffles and Tostitos</li> <li>- Whole grain cereal bars</li> <li>- Low sugar granola bars</li> <li>- Popcorn, no butter/light</li> <li>- Cheese and crackers</li> <li>- Pineapple juice</li> <li>- Propel, Gatorade, sports beverages</li> <li>- 1% milk</li> <li>- Low-fat chips</li> <li>- Soy milk</li> </ul> | <ul style="list-style-type: none"> <li>- Light and non-fat yogurt</li> <li>- Flavored waters, sugar free waters, spring water</li> <li>- Trail Mix (dried fruits and nuts)</li> <li>- Trail Mix bars</li> <li>- Cereals, whole grain</li> <li>- Tomato juice, V8</li> <li>- Juicy Juice</li> </ul> |
|---|---|--|

For more information about this survey of school vending machines, please contact Jane Warga in the Health Promotion and Assessment Unit at the District Board of Health at [jwarga@mahoning-health.org](mailto:jwarga@mahoning-health.org) or voice 330-270-2855 x131. Mahoning County school districts may seek assistance in developing school health and wellness policies by contact Ms. Warga or Dr. Larry Frisch at [lfrisch@mahoning-health.org](mailto:lfrisch@mahoning-health.org) or voice 330-270-2855 x174.

*We wish to express our gratitude to registered sanitarians at the District Board of Health, Youngstown City Health District, and Struthers City Health District for their assistance in conducting this survey.*

September 2005

Matthew Stefanak  
Mahoning County Health Commissioner

<sup>1</sup> Center for Science in the Public Interest. *Dispensing Junk: How School Vending Undermines Efforts to Feed Children Well*. May 2004. [www.cspinet.org/schoolfoods](http://www.cspinet.org/schoolfoods).

<sup>2</sup> Healthy Valley 2000. A Community Health Plan for Mahoning County. May 1998. [www.mahoning-health.org/valley2000](http://www.mahoning-health.org/valley2000).

<sup>3</sup> American Academy of Pediatrics, Committee on School Health. Soft drinks in schools. *Pediatrics*. 2004;113:152-154.

<sup>4</sup> Healthy Options for the Vending Machine. [www.healthyoahoans.org](http://www.healthyoahoans.org).