

# The Economic Impact of National School Nutrition Standards on Schools and the Beverage Industry



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### **CSPI and its Nutrition Policy Project**

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CSPI's Nutrition Policy Project works with concerned citizens, health professionals, government officials, and other nonprofit organizations to strengthen national, state, and local policies and programs to promote healthy eating and reduce obesity. CSPI's goals are to help reduce the illnesses, disabilities, and deaths caused by diet- and obesity-related diseases and conditions, such as heart disease, cancer, high blood pressure, and diabetes. For more information, visit [www.cspinet.org/nutritionpolicy](http://www.cspinet.org/nutritionpolicy).

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Estimating the Economic Impact of National School Nutrition Standards on Schools and the Beverage Industry is available on-line, free of charge at [http://cspinet.org/new/pdf/economic\\_impact\\_school\\_nutrition\\_standards.pdf](http://cspinet.org/new/pdf/economic_impact_school_nutrition_standards.pdf)



# The Economic Impact of National School Nutrition Standards on Schools and the Beverage Industry

## Summary

The United States Department of Agriculture (USDA) recently proposed national school nutrition standards for school vending machines, a la carte in cafeterias, school stores, and other foods sold outside of school meals (referred to as competitive foods). If USDA follows the recommendations of the Center for Science in the Public Interest and other health experts, nutritionally sound beverage standards in the final regulations should have little to no financial impact on schools or the beverage industry.

Beverage sales in schools represent a small proportion of total distribution, less than one percent (0.7%) of total U.S. beverages. The mix of those beverages has been changing. A number of states and school districts have passed policies to eliminate unhealthy beverages from schools. In addition, the beverage industry has been working with the Alliance for a Healthier Generation (Alliance) to limit sales of certain beverages in schools.

Under the new national school beverage standards, it is likely that USDA will continue to permit the mix of beverages that are allowed in elementary and middle schools under the industry/Alliance standards. It also is likely that USDA will agree with the milk, water, juice, full-calorie, and diet drink standards that industry has already agreed to in high schools. The primary change that CSPI and others are recommending that differs from the industry/Alliance standards is to the definition of mid-calorie drinks in high schools.



Mid-calorie drinks provide schools with an average of \$0.74 in revenue per student per year. By replacing mid-calorie drinks with existing lower-calorie alternatives and reformulation to further reduce their calories, the effect on school revenue should be negligible.

## Background

Consumption of sugar-sweetened beverages (SSBs) contributes to many public health problems. Sugary drinks contain little or no nutritional value, and consumption of SSBs is associated with lower intakes of milk, which lowers intakes of calcium and other essential nutrients.<sup>1</sup> SSBs are the single largest contributor of calories to Americans' diets.<sup>2</sup> They are associated with increased energy intake,<sup>3,4,5,6,7,8,9,10,11,12</sup> higher body weights,<sup>13,14,15,16</sup> and increased risk of type 2 diabetes.<sup>17</sup> SSB consumption also contributes to tooth decay.<sup>18</sup>

Carbonated SSB intake per capita steadily increased from the 1950s until 1999<sup>i</sup> (see Figure 1).<sup>19</sup> Since then, consumption of sugary carbonated drinks has gradually decreased, while diet and low-calorie beverages have increased modestly.<sup>20</sup> Though the recent decrease in SSB consumption is encouraging, consumption is still well

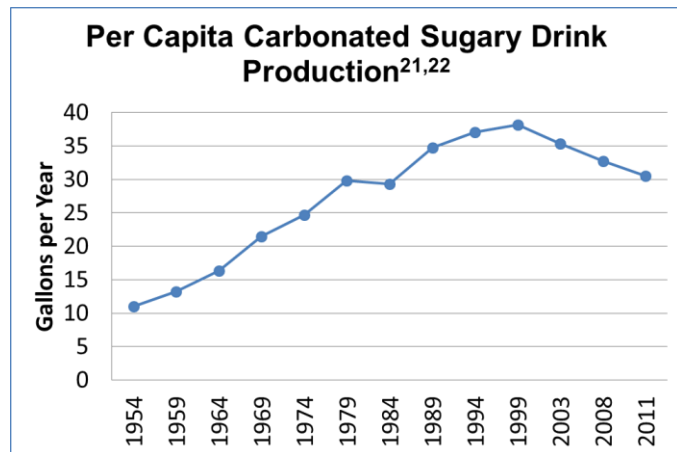


Figure 1

above what it was in the 1950s. In 1954, companies produced about 11 gallons per person per year of carbonated sugary drinks, whereas in 2011, companies produced an average of 30.5 gallons per person per year. Self-reported data, which underestimates consumption, shows that in 1965 Americans consumed approximately 50 calories a day from sugary drinks; in 2006, Americans drank an average of 175 calories a day from sugary drinks.<sup>23,24</sup>

In addition, sports drink consumption has increased.<sup>25</sup> Between 1988–1994 and 1999–2004, consumption of sports drinks increased threefold among adolescents.<sup>26</sup> Sports drinks are marketed as a healthy alternative to full-calorie soft drinks.<sup>27</sup> Yet, sports-drinks are recommended only to enhance the performance of individuals engaged in continuous, high-intensity workouts lasting for more than 60 minutes.<sup>28</sup> Consuming water before, during, or after physical activity should provide adequate hydration for almost all children and teens during the school day.<sup>29</sup>

<sup>i</sup> The U.S. Department of Agriculture (USDA) does not monitor the production of all sugary drinks combined. It does have long-term trend data on carbonated beverages, which are presented here.

Most children today consume four to six times more added sugars than the maximum recommended by the American Heart Association (AHA).<sup>30</sup> The AHA recommends that most children and adolescent girls consume no more than 20 grams (5 teaspoons) of added sugars per day, and adolescent boys consume no more than 33 grams (about 8 teaspoons) of added sugars per day.<sup>31</sup> With 21 grams of added sugars, a 12-ounce sports drink exceeds daily recommended amounts of added sugar for most children and teenage girls and provides two-thirds of the recommendation for teenage boys. Though lower in calories than full-calorie soda, sports drinks still get all their calories from sugars and provide an average of 75 calories per 12-ounce container (regular soft drinks have about 150 calories per 12 ounces).

Sports drinks also contain added sodium, which most children over consume. The Dietary Reference Intake for sodium is no more than 1,500 mg to 2,300 mg per day for children (depending on age).<sup>32</sup> More than 75 percent of children consume more than 2,300 mg of sodium a day.<sup>33</sup> A 20-ounce bottle of Gatorade contains approximately 275 mg of sodium.

Over the past three decades, obesity rates have tripled among children and adolescents.<sup>34</sup> Unhealthy foods and beverages sold through vending machines, a la carte in cafeterias, and other venues outside of school meals (collectively known as competitive foods) have a negative effect on students' diets and weight.<sup>35,36,37,38,39,40,41,42,43</sup> For example, high school students who consume SSBs at school consume 230 more calories on average over the course of a day than students who do not drink sugary beverages at school.<sup>44</sup>

Over the last decade, states and school districts have implemented nutrition standards for competitive foods sold in schools. The strength of those policies varies, and stronger policies are associated with decreased calorie consumption and lower rates of obesity.<sup>45</sup>

In addition, the Coca-Cola Company, Dr. Pepper Snapple Group, PepsiCo, and the American Beverage Association (ABA) worked with the Alliance for a Healthier Generation (Alliance) to establish the Alliance School Beverage Guidelines in May 2006.<sup>46,47</sup> The beverage industry committed to remove full-calorie soft drinks from all schools by the beginning of the 2009–2010 school year.

In 2010, Congress passed the Healthy, Hunger-Free Kids Act, requiring the United States Department of Agriculture (USDA) to update the national school nutrition standards for

foods and beverages sold outside of school meals.<sup>48</sup> USDA was required to propose a rule outlining those standards by December 2011. USDA sent the rule to the White House Office of Management and Budget in April 2012, and released the proposed standards for public comment on February 8, 2013.

Implementation of state and local policies together with implementation of the industry/Alliance school beverage standards have resulted in a 90% reduction in total beverage calories shipped to schools between 2004 and 2009–2010.<sup>49</sup> In 2004, 77% of the beverages in high schools were unhealthy, compared to 35% in 2009–2010 (see Table 1).<sup>50</sup> This is good progress, but there is still work to be done. According to one national study, 88% of high school students and 63% of middle school students still have access to sugary drinks in school.<sup>51</sup> In addition, sports drinks were the most common sugar-sweetened beverage available; 80% of high school students and 50% of middle school students had access to sports drinks.<sup>52</sup>

Table 1		
Beverages Sold in High Schools <sup>53</sup>		
Beverage	2004	2009-10
Waters	10%	27%
100% Juice	3%	5%
Diet	7%	16%
Diet Sports Drinks	N/A	5%
Other Diet	3%	12%
<b>Healthier Beverages (total)</b>	<b>23%</b>	<b>65%</b>
Full-Calorie Soda	44%	6%
Sports Drinks	14%	17%
Other Full-Calorie Drinks	19%	7%
Other Mid-Calorie Drinks	1%	4%
<b>Unhealthy Beverages (total)</b>	<b>77%</b>	<b>35%</b>

Compared to the voluntary agreement the beverage industry has made thus far, complying with expected final national school nutrition standards for school beverages should be far less burdensome. The Alliance School Beverage Guidelines are not that

different from what USDA proposed and what the Center for Science in the Public Interest (CSPI) (and the majority of other members of the National Alliance for Nutrition and Activity) recommends for the national school nutrition standards (see Table 2).

In the proposed competitive foods standards, USDA largely accepted the mix of beverages allowed under the industry/Alliance standards for elementary and middle schools. USDA also proposed similar standards to what the industry has already agreed to in high schools for milk, water, juice, full-calorie, and diet drinks. The only meaningful change to the industry/Alliance standards is to the maximum calorie limit for mid-calorie drinks in high schools. USDA proposed either 50 calories per 8 ounces or 40 calories per 8 ounces with a maximum portion size of 12 ounces. CSPI recommends that mid-calorie drinks be defined as 40 calories per container (based on the Food and Drug Administration definition of low-calorie).<sup>54</sup> The industry/Alliance definition is 66 calories per 8 ounces with a 12-ounce portion size maximum (for a total 100-calorie maximum). A change to a 40-calorie limit per container is important to adequately address obesity and continue to shift the mix of products in high schools toward lower-calorie options.

Table 2		
Industry Standards v. Recommended National Standards		
	Industry/Alliance Standards <sup>55</sup>	CSPI Recommended Standards
Elementary Schools	Water, Low-fat Milk, and 100% Juice	Water, Low-fat Milk, and 100% Juice
Middle School	Water, Low-fat Milk, and 100% Juice	Water, Low-fat Milk, and 100% Juice
High School	Water, Diet, Low-fat Milk, 100% Juice, and Mid-Calorie ( <b>66 calories/8 oz, 100 calories/12 oz</b> )	Water, Diet, Low-fat Milk, 100% Juice, and Mid-Calorie ( <b>40 calories/container</b> )

Schools are places for teaching children and modeling good nutrition, to help children form healthy habits that help them reduce their lifetime risk of obesity, diabetes, and other chronic diseases. Implementing strong, science-based national school nutrition standards would support healthy habits, yet should have little to no impact on school and industry revenue compared to the changes industry already has agreed to make to the beverage product mix in schools. In addition, previous studies show that when schools implement healthier competitive food standards, school revenue either remains

the same or increases, primarily due to increased participation in the school lunch program.<sup>56,57, 58,59</sup>

In this study, we estimated the total revenue for schools and the beverage industry from beverage sales in schools. We also looked at revenue from sales of different beverage categories, with a focus on mid-calorie drinks, which are the only beverage standards likely to change during the transition from the industry/Alliance school-beverage standards to the final USDA national school nutrition standards.

## Methodology

We used school beverage sales from a study commissioned by the American Beverage Association (ABA), using data provided from the 13 largest U.S. bottling companies, representing 88% of industry sales.<sup>60</sup> In that study, the authors scaled up the data to approximate 100% of the bottling industries' school beverage shipments.

We used an average price of \$1.50 per 12 ounces for revenue calculations. Based on a large national study of school vending contracts, one-third of total revenue generated from school beverage sales was allocated to schools, and two-thirds was allocated to industry.<sup>61</sup> Per-student revenue was calculated by dividing the total number of ounces sold in each beverage category by the total number of students, 53.1 million, as used in the ABA study.<sup>62</sup> The total number of students in high, middle, and elementary schools was used because more than half of beverage contracts are district-wide or include middle and elementary school students.<sup>63</sup>

Estimates of the volume of beverages produced per capita came from the Beverage Marketing Corporation.<sup>64</sup> To compare total per capita production to per student purchasing, we consolidated the ABA data<sup>65</sup> into the following categories: soft drinks, bottled water, fruit drinks and juices, sports drinks, value-added water, and teas.

Our estimate of the revenue received per school was obtained by dividing the revenue for schools, determined in this study, by the number of all schools in the country. In 2008-2009, there were 98,706 public elementary and secondary schools in the United States.<sup>66</sup>



## Results

### Impact on Schools

We calculated that schools currently earn an average of \$3.72 per student per year in total revenue from beverage sales outside of the breakfast and lunch programs (see Table 3). We expect that the final national school nutrition standards will not change the criteria for water, diet, full-calorie soft drinks, or most other beverages as compared to current industry/Alliance standards. The only change we recommend is to the definition of mid-calorie drinks.

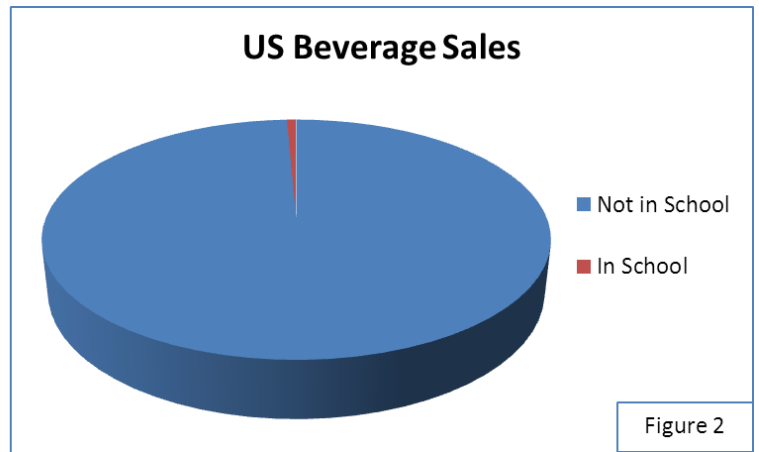
The national school nutrition standards should have little to no impact on school revenues. Mid-calorie drinks provide schools with an average of just \$0.74 per student per year. Numerous beverages on the market meet our recommended maximum calories for mid-calorie drinks (40 calories per container, see Appendix). For example, Coca-Cola alone sells over 800 no- or low-calorie products globally, which represent almost 25% of its total portfolio.<sup>67</sup> By replacing disqualified mid-calorie drinks with existing lower-calorie alternatives, the effect on school revenue should be negligible.

Industry is already reformulating and introducing new products due to consumer interest in lower-calorie beverages. In addition, in the long run it might be cheaper for industry to reformulate its products under national school nutrition standards than to reformulate to meet the many different standards currently in place in individual school districts and states.

Beverage	Revenue per Student	Industry Share	School Share
Full Calorie	\$1.53	\$1.02	\$0.51
<b>Mid-Calorie</b>	<b>\$2.21</b>	<b>\$1.48</b>	<b>\$0.74</b>
Diet	\$3.26	\$2.17	\$1.09
100% Juice	\$0.77	\$0.51	\$0.26
Water	\$3.39	\$2.26	\$1.13
<b>Total</b>	<b>\$11.15</b>	<b>\$7.43</b>	<b>\$3.72</b>

**Impact on Industry**

The impact of national school nutrition standards should be modest on the beverage industry. Beverage sales in schools comprise only a small percent of the overall beverage sales (see Figure 2). In 2010, Americans purchased 100.3 gallons of beverages per capita.<sup>68</sup> Students purchased 0.7 gallons (89 ounces) per student per year in schools.<sup>69</sup> Thus, less than one percent (0.7%) of beverages (both healthy and unhealthy) are purchased in schools on average.



**Table 4**

**Per Capita Purchasing of Beverages Overall v. in Schools**

Drinks	National Per Capita (Gallons) <sup>70</sup>	School Per Capita (Gallons) <sup>71</sup>	Percent Purchased in Schools
Soft Drinks	44.7	0.17	0.4%
Bottled Water	28.3	0.24	0.9%
Fruit Drinks and Juice	11.5	0.08	0.7%
Sports Drinks	4	0.18	4.5%
Value-Added Water	1.5	0.1	6.5%
Tea	10.3	0.03	0.3%

Sports drinks are one key category of mid-calorie drinks. Sports drinks in schools comprise approximately 4.5% of all sports drinks distributed in the United States (see Table 4). All mid-calorie drinks in schools account for just 0.14% of total U.S. beverage distribution, showing again that mid-calorie drinks in schools are a small portion of the U.S. beverage market. Importantly, not all of that 0.14% would be lost as a result of national school nutrition standards. The beverage industry has an array of lower calorie

options available (see Appendix). Thus, stronger calorie standards for mid-calorie drinks will simply change the mix of beverages available to students, not cut down the number of options. For example, a vending machine that currently offers 10 beverage options will still be able to offer 10 beverage options, but the specific products offered may be different.

Industry revenue from all mid-calorie beverages sold in schools amounts to \$1.48 per student per year. If, as an extreme and unlikely example, all mid-calorie drinks were removed from schools and students did not buy other beverages, industry revenue could decrease at most by \$78.4 million per year out of an annual total of approximately \$119 billion (\$46.5 billion for the Coca-Cola Company,<sup>72</sup> \$66.5 billion for Pepsico,<sup>73</sup> and \$5.9 billion for Dr. Pepper Snapple Group<sup>74</sup>), a decrease of 0.0006%. Maximum possible loss of school revenue is \$39.2 million per year; but averaged across all schools, that equates to an average annual decrease of \$396 per school (the amount for individual schools would vary depending on the size of the school and other factors). However, given the experiences in schools that have switched to healthier school snacks and beverages and the wide availability of lower-calorie options, such a “worst case” scenario is highly unlikely.

This study focused on beverage sales, and did not assess snack food sales in schools. National snack food sales data for schools is not available. Most school beverage sales are through the major beverage companies. In contrast, snacks are sold by a large number of vendors. In addition, there are fewer snack vending machines than beverage vending machines in schools; approximately 70% of vending machines in schools are for beverages.<sup>75</sup> Due to higher beverage vending sales in schools and the wide range of food options on the market, snack companies likely would be affected less by national school nutrition standards than would be beverage companies.

## Conclusions

Compared to the changes that the beverage industry already has agreed to, implementation of the national school nutrition standards should have comparatively little to no financial impact on schools and the beverage industry, especially considering the large number of low-calorie options on the market, likely substitutions, and reformulation. On the other hand, adopting nutrition standards should have a beneficial impact on students’ diets and weight. Thus, we urge USDA to adopt a standard of no more than 40 calories per container for mid-calorie drinks in high school.

## Appendix

### Examples of Beverages Under 40 Calories

Water	Flavored Water	Juice Drinks	Juice Drinks	Sports Drinks	Low-Calorie Soda	Low-Calorie Soda
Smart Water	Seagrams' Key Lime Seltzer	Sunkist Diet Sparkling Lemonade	Snapple Diet Cranberry Raspberry	Propel Zero Kiwi Strawberry	Caffeine-Free Diet Pepsi	Caffeine-Free Diet Coke
Evian	Raspberry Amelia Sparkling Water	Tropicana Light Lemonade	Ocean Spray Diet Cran-Pomegranate	Gatorade G2 Glacier Freeze	Sprite Zero	Caffeine-Free Diet Coke with Lime
Poland Springs	Polar Vanilla Seltzer	Hawaiian Punch Fruit Juicy Red Light	Snapple Diet Noni Berry	Powerade Zero Grape	Diet Barq's Rootbeer	Caffeine-Free Diet Raspberry Coke
Fiji	Seagrams' White Peach Seltzer	Tropicana Light Fruit Punch	Ocean Spray Diet Cran-Lemonade	Propel Zero Black Cherry	Caffeine-Free Diet Dr. Pepper	Diet Sierra Mist
Perrier	Dasani Flavored Waters	Tropicana Light Berry Blend	SoBe Lean Fuji Apple Cranberry	Gatorade G2 Fruit Punch	Caffeine-Free Coke Zero	Diet Stewarts Orange and Cream
Volvic	Aquafina FlavorSplash	V8 Splash Diet Berry Blend	SoBe Lean Raspberry Lemonade	Powerade Zero Strawberry	Diet Sun Drop	Diet Sunkist
Deer Park	Vitamin Water Zero	Minute Maid Light Lemonade	Ocean Spray Diet Sparkling Cranberry	Propel Zero Peach	Diet 7-Up	Diet Stewarts Rootbeer
Arrowhead Water	Seagrams' Blackberry Raspberry Seltzer	Country Time Light Lemonade	Ocean Spray Diet Blueberry	Gatorade G2 Blueberry Pomegranate	Caffeine-Free Diet Mountain Dew	Fresca
Vittel	Polar Raspberry Seltzer	V8 Splash Diet Tropical Blend	Tropicana Light Berry Blend	Powerade Zero Orange	Diet A&W Rootbeer	Schweppes Diet Ginger Ale

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