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SODAS IN SCHOOLS: THE CONTROVERSY AND POSSIBLE SOLUTIONS

by

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TABLE OF CONTENTS

| | Page |
|--|------|
| INTRODUCTION | 1 |
| WHETHER SODAS INCREASE RISK OF OBESITY | 1 |
| WHY OBESITY MATTERS | 2 |
| SODAS IN SCHOOLS | 3 |
| VOLUNTARY LIMITATIONS..... | 4 |
| CURRENT RESTRICTIONS IN SCHOOLS | 5 |
| PROPOSED LEGISLATION | 6 |
| CONCLUSION..... | 6 |
| ENDNOTES..... | 7 |

INTRODUCTION

In August 2006, the board of the Detroit Public Schools voted to remove all existing vending machines from its school buildings, with plans to install new machines offering healthier fare.¹ The district's decision is part of a growing national movement toward limiting sales of sodas and snacks on school property, amid concerns over the health of American students. Long-term national trends show that Americans are growing heavier as a population, and that obesity is occurring at earlier ages.

As part of efforts to curb this trend, many parents, school administrators, and policy-makers have sought ways to encourage healthier eating habits among schoolchildren. Some point to the prevalence of vending machines as a contributing factor, saying that sugary drinks add empty calories to students' diets and displace more nutritious beverages such as milk. Efforts to restrict the sales of sodas in schools have met with some opposition from industry groups and others who question whether sodas are really to blame for the rising rates of obesity, although in May 2006 the American Beverage Association signed a voluntary agreement that may reduce the presence of sodas and other beverages on school property.

This paper discusses the controversy over policies to limit sodas and other beverages in schools, and reviews various approaches adopted by the industry, state legislatures, and school districts across the country.

WHETHER SODAS INCREASE RISK OF OBESITY

The Centers for Disease Control and Prevention (CDC) identify several factors that can contribute to a person's weight, including caloric intake, physical activity, environment, and genetics.² The relative significance of these factors is still being examined, but the CDC states - and it is common knowledge - that weight gain is caused by a long-term imbalance between calories consumed and calories burned. Some research indicates that the increasing consumption of sodas and other sweetened beverages may be contributing to that problem. According to a 2001 study published in the medical journal *The Lancet*, an individual's odds of becoming obese increase 1.6 times for every additional serving of sugary drink consumed per day.³

The study examined 6th and 7th graders from five randomly selected schools in one metropolitan area over a period of 19 months, measuring weight, height, and body mass index at the beginning and the end of the study period. After controlling for other factors that could affect weight, including physical exercise, physical education classes, and television-viewing habits, the results showed that the consumption of drinks with added sugar increased a child's odds of becoming obese.

To explain these findings, the authors cited research showing that the human body has trouble compensating for calories consumed in liquid form.⁴ Generally, if a person consumes extra calories, the body naturally adjusts for that intake, causing the person to feel less hungry. Consequently, he or she will consume fewer calories over the next few meals to balance out his or her overall caloric intake. If the excess calories come from a liquid, however, the body does not completely compensate for those calories as it would for a solid snack. The result is that the calories in sweetened beverages add to a person's total caloric intake, causing weight gain over a period of time.

Those in the beverage industry and others have disputed the study's findings, most often pointing to research done by Dr. Lisa Sutherland at the University of North Carolina in 2003. Dr. Sutherland analyzed data collected by the CDC from 1980 to 2000, and found that although obesity rates rose over 20.0% during that period, caloric intake rose only 1.0%.⁵ She found that physical activity declined 13.0% during the same period. Dr. Sutherland concluded that the relatively small rise in caloric intake could not explain the high levels of obesity observed, and said that the decline in physical activity may be more of a contributing factor. In other words, an increasingly sedentary lifestyle may contribute more to rising obesity rates than poor diet does. Critics of the study have questioned the validity of the data, suggesting that caloric intake has increased more than 1.0% over the past 20 years. Some also have questioned the independence of the study, which was funded by a grant from the National Soft Drink Association (now the American Beverage Association). Dr. Sutherland has said that the grant was completely independent, and that the Association had no influence over the conduct or results of the study.⁶

WHY OBESITY MATTERS

The American Obesity Association reports that obesity rates among adolescents tripled over the 20-year period from 1980 to 2000, rising from 5.0% to over 15.0%.⁷ Among children between the ages of six and 11, obesity rates more than doubled, rising from 7.0% to 15.3%. These trends are troubling because obesity has been linked to myriad health problems, including heart disease, stroke, hypertension, type II diabetes, and gallbladder disease. In addition, overweight individuals are at higher risk for some types of cancers, including colon cancer and uterine cancer. Children who are overweight are more likely to be overweight as adults, and generally have higher lifetime health costs and a lower life expectancy.

Type II diabetes, in particular, is a significant health risk for obese individuals, and has become more prevalent among children and adolescents. Type II diabetes is caused by a failure of the cells that process insulin, a hormone that regulates blood sugar. As the cells become more resistant to insulin, higher levels of the hormone are needed to maintain normal blood sugar levels. Previously the condition was known as adult-onset diabetes, because it was most often diagnosed in individuals over the age of 40. Current trends, however, show that the disease is affecting younger children in growing numbers. According to the CDC, about one in 400 to 500 children under the age of 18 has diabetes,⁸ although scientists still are uncertain what is causing the trend. While obesity by itself does not cause diabetes, being overweight increases the risk of becoming diabetic, which in turn can have other negative health effects, including heart disease, kidney disease, stroke, and blindness.⁹

In addition to the physical health effects, it has been widely reported that, compared with other children, overweight children suffer from elevated levels of depression, have fewer social contacts, and have lower self esteem. Particularly during the teen years, the social isolation experienced by overweight youths can have long-term emotional impacts. Several studies have demonstrated the damaging psychological effects of obesity; one article published in the July 2006 issue of *Archives of General Psychiatry* found that obese individuals were 20% more likely to suffer from depression, and were more likely to suffer from bipolar disorder or other psychiatric disorders than those of normal weight.¹⁰

Some are concerned, however, that the health risks of obesity may be overstated. Many of the greatest risks fall on those who are extremely overweight, while those who are only marginally obese may be relatively healthy. They argue that placing an undue emphasis on obesity may stigmatize naturally heavy individuals, leading them to experiment with potentially dangerous weight-loss techniques to obtain a socially acceptable weight.¹¹ In addition, the focus on obesity may exacerbate the emotional damage that overweight children already experience, possibly causing them to withdraw, avoiding physical activities or other social situations where they might be teased.¹² In particular, the practice in some schools of issuing "obesity report cards" has been criticized by many for placing an unhealthy emphasis on students' weights.

Many believe that schools can encourage healthier eating habits among students without causing such negative effects. While some students are naturally heavier than others, weight gain driven by unhealthy eating habits, low levels of exercise, or other factors can and should be addressed in a constructive way. Many policy-makers believe that encouraging children to adopt healthy eating practices at school by limiting access to high-calorie drinks and snacks is an appropriate step in that direction.

SODAS IN SCHOOLS

According to a May 2004 report by the Center for Science in the Public Interest, 74.0% of middle or junior high schools and 98.0% of senior high schools in the U.S. offered snacks and sodas through vending machines or other points of sale.¹³ Vending machines have become much more common in schools in recent years because they provide an additional revenue source for school districts that are increasingly strapped for cash. Soda companies are willing to offer up-front cash payments and incentives in exchange for exclusive beverage contracts on school property. Districts commonly receive 30.0% of the revenue from vending machines, and sometimes receive a higher percentage for sales of sodas rather than fruit drinks or other beverages.¹⁴

The money from the vending machines may go to fund extracurricular activities such as athletic programs or marching bands. School officials argue that these activities contribute greatly to the students' educational experience, and in an environment of limited funding, school districts would struggle to pay for them without the assistance of the soda companies. The American Beverage Association, which represents most soda and drink manufacturers and distributors in the United States, notes that soda contracts are mutually beneficial, generating revenue for schools and students as well as for the beverage companies.¹⁵

Critics of these arrangements argue that the exclusive contracts overwhelmingly favor the beverage companies. In 2004, the Community Health Partnership reviewed several school districts in Oregon that had entered into contracts with soda companies.¹⁶ One of the districts, described in an article in *Rethinking Schools*, signed a 12-year exclusive contract with Coca Cola, Inc., for which it received an up-front payment of \$300,000 and a new athletic field worth \$1.0 million. In exchange, the school district agreed to sell a minimum of 10.8 million beverages over the next 12 years, with the district receiving 30.0% of the proceeds.¹⁷ Under those terms, the author pointed out, while the school would receive approximately \$3.0 million from the deal, the soda company would earn at least \$7.0 million over the life of the contract, easily recouping its \$1.3 million initial investment. Although these figures reflect gross receipts, not profits, it holds true that most of the revenue from the arrangement goes to the soda company, rather than the

school district. In addition, the financial benefit of the contract for the school system is marginal. The district's income from the deal (taking into account the cash advance, noncash donations, and sales revenue) was calculated at \$19.12 per pupil per year, compared with \$6,606 in total per-pupil spending in the district.¹⁸ Critics argue that these modest revenue gains do not compensate for the negative health effects on students.

Others believe that banning or regulating vending machines is not the answer. They have argued that it is an issue of local control, and that school districts, not outside regulators, should decide these issues. Others have said that children should be free to choose what they want to eat or drink, and should be taught how to make healthy choices rather than simply being forbidden to drink certain beverages. In addition, it has been pointed out that students spend only a portion of their time at school, and school administrators have no control over what children eat or drink in other settings. Critics of the soda bans have said that parents, not schools, ultimately bear the responsibility for ensuring that children are eating properly.

VOLUNTARY LIMITATIONS

In response to the growing concern over the issue and in the face of threatened litigation, the American Beverage Association (ABA) signed a voluntary agreement with the Alliance for a Healthier Generation¹⁹ in May 2006. The agreement aims to remove all sodas from schools and limit the types and portions of other drinks sold on school property. The policy will be phased in over three years.

Under the agreement, elementary school vending machines may sell bottled water, milk, flavored milk with up to 150 calories, and 100% juice with no added sweeteners and up to 120 calories.²⁰ Except for the bottled water, all portion sizes will be limited to eight ounces or less.

In middle schools, the guidelines permit the same beverage options, but allow 10- ounce portions of milk and juice.

In addition to those offerings, high schools will be permitted to sell light juice, sports drinks, and no- or low-calorie beverages in limited sizes. The guidelines specify that at least half of the beverages available must be water or no- or low-calorie beverages.

The agreement has been praised widely as a significant step forward and an acknowledgment by the ABA that the industry shares some responsibility for the health of the children to whom its products are marketed.

Nevertheless, critics of the agreement point out that the guidelines are voluntary, and that implementation will be left to individual distributors and school districts. In addition, many schools are under long-term beverage distribution contracts, some for 10 years or more. For those districts, complying with the agreement would mean renegotiating the contracts or waiting until the current contracts expire. If a district received an upfront payment or other bonus to sign the contract, renegotiating could be difficult and mean repaying a portion of the benefit. Also, most soda machines currently are designed to dispense 20-ounce bottles. It is unclear what the cost of reconfiguring those machines will be, and how quickly the industry will change them over to dispense the smaller sizes recommended in the guidelines. Given these limitations, some are skeptical that the

agreement will have much effect, although it will become clearer whether these difficulties can be overcome as the agreement is phased in over the next three years.

CURRENT RESTRICTIONS IN SCHOOLS

Some school districts already have taken action to limit sales of sodas on school property. In 2003, New York City and Los Angeles were among the first public school districts in the country to adopt restrictive policies on the sale of beverages in schools. Since then, other districts, including Philadelphia, Seattle, and Detroit, have implemented similar policies. Some districts estimate that the moves will cost them a significant amount of money. In Michigan, Plymouth-Canton Community Schools recently limited its beverage offerings to diet sodas, sports drinks, and water²¹, and according to an article in the *Detroit Free Press*, the district estimates that the move will cost it about \$200,000 a year in lost bonuses from the soda company and in reduced sales. Several states also have enacted statutes prohibiting or limiting the sale of certain beverages on school property. New Jersey has one of the most restrictive laws in the country, requiring all schools in the state to adopt a comprehensive nutritional policy by September 1, 2007; the policy must ban foods of minimal nutritional value (including soda), items listing sugar as the first ingredient, and all candy. Milk must be limited to eight-ounce portions, and all other beverages except water must be 12 ounces or less.²²

Connecticut passed similar restrictions in April 2006,²³ after Governor Jodi Rell had vetoed an earlier school nutrition bill the previous year.²⁴ Arizona, California, Illinois, and Tennessee also have adopted measures to curb beverage sales to schoolchildren on school property.

In addition, the Federal government requires schools to develop nutritional guidelines for all foods and beverages available on school property during school hours. Under the Women, Infants, and Children (WIC) Reauthorization Act of 2004,²⁵ schools participating in a Federal nutrition program (such as the national school lunch program) must establish a wellness policy that includes the nutritional guidelines. This requirement took effect on July 1, 2006. Each district is free to establish its own wellness policy, and there are no penalties under the law for not complying. Some school districts reportedly have used the wellness policies to limit items sold in vending machines, while others have taken a broader approach to student health, improving the nutrition of school lunches, encouraging participation in recess, and restricting the distribution of candy in classes.

In Michigan, on December 18, 2003, the State Board of Education issued a "Policy on Offering Healthy Food and Beverages in Venues Outside of the Federally Regulated Child Nutrition Programs". The statement recommends that schools offer whole and enriched grain products, nuts, fruits and vegetables, and 100% fruit juice in 12-ounce portions or less, among other recommendations. Although the policy states that "[f]ood and beverages that compete with this policy's purpose should be discouraged"²⁶, the guidelines are recommendations only. While the stated purpose of the policy is to promote healthy eating in schools and to ensure that nutritious options are available to students, it is unclear whether the policy has had a significant impact on the prevalence of sodas or other sugary drinks in schools.

PROPOSED LEGISLATION

In the 2005-2006 legislative session, two bills were introduced in the Michigan Legislature to address school nutrition. Senate Bill 91, sponsored by Senator Virg Bernero, would have required schools to adopt nutrition policies limiting food and beverage options on school property.²⁷ The Senate Health Policy Committee held a hearing on the bill on November 5, 2005, but did not report the bill. House Bill 4097, sponsored by Representative Frank Accavitti, would have required the Department of Education to promulgate rules for healthy eating in Michigan schools. No action was taken on that bill, and both proposals died when the two-year session ended in December 2006.

On January 22, 2007, Representative Accavitti reintroduced his legislation. The proposal is House Bill 4036 and has been referred to the House Health Policy Committee.

CONCLUSION

The debate over children's health has received a significant amount of attention recently, both in the media and among researchers who still are trying to determine the causes of rising child obesity rates. As the CDC and others have indicated, health and weight are affected by several factors, none of which can be isolated as the sole cause of the problem. It is likely that multiple cultural changes, including decreased activity and the increased availability of sugary snacks and sodas, are contributing causes, and that the problem will be resolved only by work on several fronts. Nevertheless, there is a current movement toward limiting the availability of sodas and snacks on school property, to ensure that schools are not adding to the problem. Critics argue that these policies are ineffective and infringe on the rights of students to make their own choices, while proponents say that it is legitimate to expect schools to offer nutritional foods and beverages to students.

In response to the controversy, the soda industry has signed a voluntary agreement to increase the availability of no- or low-calorie drinks in schools and to limit the sizes of available beverages, although distributors are not required to comply with the terms of the agreement, and the existence of long-term beverage contracts with many school districts will complicate its implementation.

In addition, some states and school districts are establishing standards for the types and quantities of beverages that may be sold on school property. Because these policies are relatively new, there are little data to suggest what effects they will have on students' health. Given the wide availability of sodas and other sweetened beverages outside of schools, it is unlikely that these policies by themselves will have a great impact on childhood obesity, although they may raise the awareness of the issue and may contribute to more healthful eating habits among children and adolescents who are at an impressionable age. As these policies are implemented in schools across the country, it will be interesting to see if they are effective in reducing the quantity of soda consumed, and whether they affect the problem of childhood obesity in America.

ENDNOTES

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- ¹ Chastity Pratt, "Schools to ban pop, candy," *Detroit Free Press*, 8-12-06.
- ² "Overweight and Obesity: Contributing Factors," Centers for Disease Control and Prevention, http://www.cdc.gov/nccdphp/dnpa/obesity/contributing_factors.htm (retrieved 1-19-07).
- ³ David S. Ludwig, et al, "Relationship between consumption of sugar-sweetened drinks and childhood obesity: a prospective, observational analysis", *The Lancet*, 2-17-01.
- ⁴ R.D. Mattes, "Dietary Compensation by Humans for Supplemental Energy Provided as Ethanol or Carbohydrate in Fluids", *Physiology and Behavior* 59, no. 1 (1996): 179.
- ⁵ CBS News, "Why Teens Are Getting Fatter", 5-12-03.
- ⁶ CBS News.
- ⁷ "Childhood Obesity: Prevalence and Identification", American Obesity Association, <http://www.obesity.org/subs/childhood/prevalence.shtml> (retrieved 1- 19-07).
- ⁸ "Fact Sheet: SEARCH for Diabetes in Youth", Centers for Disease Control and Prevention, <http://www.cdc.gov/diabetes/pubs/pdf/search.pdf> (retrieved 2-1-07).
- ⁹ "Do You Know the Risks of Being Overweight?", National Institute of Diabetes and Digestive and Kidney Diseases, http://win.niddk.nih.gov/publications/health_risks.htm (retrieved January 1-24-07).
- ¹⁰ Gregory E. Simon, et al, "Association between obesity and psychiatric disorders in the US adult population", *Archives of General Psychiatry*, July 2006, Medline via Michigan eLibrary, <http://www.mel.org/screens/databases/subjects.html>.
- ¹¹ Jonathan Robison, "Obesity Rhetoric Extreme", *Lansing State Journal*, 10-20-05.
- ¹² Rebecca M. Puhl and Kelly Brownell, "Wrong Way to Fight Fat", *Washington Post*, 11-2-06.
- ¹³ "Dispensing Junk: How School Vending Undermines Efforts to Feed Children Well", Center for Science in the Public Interest, May 2004.
- ¹⁴ Nicola Pinson, "Soda Contracts: Who Really Benefits?", *Rethinking Schools Online*, Spring 2006, http://www.rethinkingschools.org/archive/20_04/soda204.shtml (retrieved 1-29-06).
- ¹⁵ "Beverages in Schools", American Beverage Association, <http://ameribev.org/industry-issues/beverages-in-schools/index.aspx> (retrieved 10-19-06).
- ¹⁶ Nicola Pinson, "School Soda Contracts: A Sample Review of Contracts in Oregon Public School Districts, 2004", Community Health Partnership.
- ¹⁷ Pinson, "Soda Contracts: Who Really Benefits?"
- ¹⁸ Pinson, "School Soda Contracts: A Sample Review...".
- ¹⁹ The Alliance is a joint venture by the American Heart Association and the William J. Clinton Foundation, and is headed by former U.S. President Bill Clinton and Arkansas Governor Mike Huckabee.
- ²⁰ "School Beverage Guidelines", American Beverage Association, <http://ameribev.org/industry-issues/beverages-in-schools/school-beverage-guidelines/index.aspx> (retrieved 10-10-06).
- ²¹ Zlati Meyer, "Plymouth-Canton Gives Up Pop, Cash", *Detroit Free Press*, 11-6-06.
- ²² Press release, New Jersey Office of the Governor, 6-6-05, http://www.nj.gov/cgi-bin/governor/njnewsline/view_article.pl?id=2555 (retrieved 10-20-06).
- ²³ Connecticut Public Act 06-63, An Act Concerning Healthy Food and Beverages in Schools, <http://cga.ct.gov/2006/ACT/PA/2006PA-00063-R00SB-00373-PA.htm> (retrieved 10-10-06).

²⁴ "Connecticut Governor Slammed for 'Siding with Soda Companies'", Food Navigator-USA, <http://www.foodnavigator-usa.com/news/news-ng.asp?n=60883-connecticut-governor-slammed> (retrieved 10-10-06).

²⁵ Public Law 108-125, Child Nutrition and WIC Reauthorization Act of 2004, <http://www.govtrack.us/congress/billtext.xpd?bill=s108-2507> (retrieved 1-22-07).

²⁶ "Policy on Offering Healthy Food and Beverages in Venues Outside of the Federally Regulated Child Nutrition Programs", Michigan State Board of Education, 12-18-03.

²⁷ A summary of Senate Bill 91 is available on the Michigan Legislature website at: <http://www.legislature.mi.gov/documents/2005-2006/billanalysis/Senate/pdf/2005-SFA-0091-S.pdf>.