

# in focus

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## THE ALLURE AND HAZARDS OF SUGARY FOODS

How Sweet It Isn't:

### High Sugar Intake Threatens Human Health Worldwide

It's sweet. It's ubiquitous. And it is one of the single biggest threats to public health worldwide.

Sugar has been around since ancient times, but its rockstar status is of modern-day making, a result of the confluence of mass production, consumer appetite and corporate profits.

Presently, sugar is a popular, if not important, part of the human diet, found in everything from candy, cookies and cake to pasta sauce, salad dressing and bread. It appears on ingredients lists as its five-letter self, as well as in other forms such as high-fructose corn syrup, evaporated cane juice, dextrose, fructose, maltodextrin, and about 30 other less recognizable monikers, depending on its source and how it was made.

While sugar and its derivatives may make food more palatable and provide energy, consumption of sugar in any form is the proverbial double-edged sword on a slippery slope, a "liquid candy" linked to numerous and reverberating health issues.

#### Sugar Consumption and Trends

Despite evidence of its deleterious effects, sugar is an increasingly sought-after commodity. The world is forecast to consume a record 163.7 million metric tons (MMT) of it (raw value) during the 2012/13 marketing year, reports the U.S. Department of Agriculture (USDA) Foreign Agricultural Service in its May 2012 "Sugar: World Markets and Trade." This would constitute a 3 MMT increase over the preceding year, a jump attributable to record high demand in India, where culture and custom are combining with rising population, incomes and middle-class values to drive desire, and China, where increased urbanization and a Westernization of diets are the prime culprits,

Just four countries will likely account for almost 40 percent of this predicted global "sugar high." India is expected to top the list at 26.5 MMT, up 1 MMT from 2011 and almost



A public service ad from a 2009 soda-awareness campaign by the New York Department of Health and Mental Hygiene suggests a link between the consumption of sugar-sweetened beverages and obesity. New York City's recent efforts to curtail soda consumption are currently stalled.

double China's forecasted 14.9 MMT, with sugar-producing powerhouse Brazil and the United States rounding out the roster.

While countries track use in tons, the average individual consumes about 53 pounds (24 kilograms) of sugar each year, the equivalent of more than 260 food calories per person, per day. Persons in industrialized nations, where cheap, processed foodstuffs are readily available, ingest even more: about 72 pounds or 33.1 kilograms. In the United States, total annual per capita consumption of sugar and natural sweeteners equaled a hefty 130.5 pounds in 2010, according to the USDA Economic Research Service's May 2011 "Sugars and Sweeteners Outlook."



This consisted of 66 pounds of refined sugar – the highest level since 1999 – and 64.5 pounds of corn-derived sweeteners, the lowest level since 1986.

### **Sugar, Health and Chronic Diseases**

No matter what the source, however, sugar consumption and health concerns seem inexorably linked.

From 1986 to the early 2000s, for example, American sugar intake rose from 75 to more than 90 pounds per person per year, according to the USDA; meanwhile, in 1980, roughly one in seven Americans was obese, and almost 6 million were diabetic, compared to one in three and 14 million, respectively, by the early 2000s.

While strongly implied, the link between sugar consumption, obesity and obesity-related conditions such as diabetes is not conclusive. Yet it appears to be more than coincidence, as mounting research and scientific evidence support a connection.

As early as 1924, Haven Emerson, director of the institute of public health at Columbia University, reported on diabetes deaths, finding that they had increased as much as 15-fold in New York City since the Civil War years, and as much as fourfold in other U.S. cities between 1900 and 1920. This coincided, he noted, with an almost 50-percent rise in sugar consumption from 1890 to the early 1920s, as well as the birth and growth of the candy and soft-drink industries.

Meanwhile, almost a century later, in 2012, the *New England Journal of Medicine (NEJM)* reported that, “Compelling evidence supports a positive link between the consumption of sugar-sweetened beverages and the risk of obesity.” In fact, a 2009 report by the UCLA Center for Health Policy Research and the California Center for Public Health Advocacy found a 27 percent increase in the likelihood of overweight or obesity for adults in California who drank one or more sugar-sweetened beverages each day regardless of income or ethnicity, while a 2001 observational analysis published in the *Lancet* found a 60 percent increase in a child’s risk for obesity with every additional daily serving of soda.

A study published in the September 21, 2012 *NEJM* supports such findings, but questions a direct link, pointing out that “children who drink more sugar-sweetened beverages also tend to eat more fast food and to watch more television.” This “Double-blind, Randomized Intervention Study in Kids” conducted from November 2009 to July 2011 and completed by 477 schoolchildren aged 4 to 11 years living in an urban area near Amsterdam specifically found that “masked replacement of a sugar-containing beverage with a sugar-free beverage significantly reduced weight gain and body fat gain in healthy children.” In fact, children in the sugar-free group gained 35 percent less body fat than those in the sugar group, according to impedance measurements, and 19 percent less when fat mass was calculated from the sum of the thicknesses of four skinfolds.

Although encouraging, human habits would likely impede such a reduction on a mass scale. Both sugar consumption and obesity numbers continue to rise across the globe, with a 2012 report by Trust for America’s Health finding that, by 2030, America alone could have an adult obesity rate above 44 percent in all 50 states.

This is unwelcome news. Because not only is sugar consumption tied to the onset of obesity and type 2 diabetes, but it is also associated with incidence of heart disease, stroke and certain types of cancer.

In fact, a study published in October 2012 in *The American Journal of Clinical Nutrition (AJCN)* involving nearly 40,000 men and women in Japan over an 18-year period shows that women who drank sugar-sweetened sodas and juices almost every day had an 83 percent higher risk of ischemic stroke than those who reported drinking the fewest soft drinks.

Meanwhile, a March 2012 Harvard School of Public Health study of 43,000 men aged 40 to 75 followed for more than 22 years found that drinking just one sugar-sweetened soda, juice drink or energy drink a day may increase a man’s risk for heart disease by 20 percent. And the risk remained even after other indicators of unhealthy lifestyles such as smoking, lack of exercise and family history of heart disease were considered. Meanwhile, women who drink more than two sugary drinks a day are 40 percent more likely to have a heart attack or die from heart disease, according to data published in 2009 by T.T. Fung, et al, in the *AJCN*.

A connection between obesity, diabetes and cancer has also been established. First reported in 2004 in large population studies by researchers from the World Health Organization’s International Agency for Research on Cancer, the uncontroversial findings indicate that individuals are more likely to contract cancer if they are obese or diabetic than if they are not, and more likely to get cancer if they have metabolic syndrome than if they don’t. Part of the issue appears to be that insulin, which is secreted in higher amounts when a person is diabetic or develops insulin resistance, promotes tumor growth, notes Leon Stafford in his November, 12, 2012 online article, “Soda wars: cities seek restrictions, taxes to curb obesity,” in *The Atlanta Journal-Constitution*.

Decidedly less dramatic, but far more prevalent and proven is the link between sugar and dental problems, particularly dental decay in the form of cavities, which, research published in the *American Journal of Public Health* and elsewhere finds, is the most common chronic childhood disease. In fact, drinking sugary drinks nearly doubles the risk of dental cavities in children, reported W. Sohn, et al, in their 2006 article in the *Journal of Dental Research*.

Despite much damning evidence against sugar, there may be at least one bright spot. Chocolate, even in its sweetened form, has been documented to improve cognitive function, with a 2012 report by Franz H. Messerli, M.D. in the *NEJM* suggesting that its consumption may generate “the



abundant fertile ground needed for the sprouting of Nobel laureates.”

### Sugar, Satiety and the Human Body

While sugar and its many derivatives are consumed in staggering amounts across the globe, this, by itself, is only part of the problem. Wheat, chicken and soybeans are also consumed in tremendous quantities. The situation with sugar is that, unlike, wheat, chicken and soybeans, it provides empty calories – energy units devoid of nutrients, such as vitamins, minerals, antioxidants, amino acids and dietary fiber. Empty-calorie foods often take the place of foods high in vitamins and minerals, and because they do not generate a sense of satiety, they may encourage the consumption of additional foods and beverages – and many more calories than most people know, or need.

Perhaps most important, however, may be the way the human body processes empty sugar calories.

According to “Is Sugar Toxic?,” an April 2011 *New York Times* article by Gary Taubes, sugar is often lumped together with carbohydrate-rich, nutrient-poor foods like rice, bread and potatoes, but it differs from these carb cousins in a significant and critical way: Sugar and all of its derivatives contain fructose in addition to glucose, with refined sugar (or sucrose) being “a 50-50 mixture of the two.”

Humans metabolize fructose primarily via the liver, while glucose is metabolized by every cell in the body. In short, as Taubes explains it, consuming sugar (fructose and glucose) means more work for the liver than ingesting the same number of calories of starch (glucose). And consuming sugar in liquid form (e.g., soda and fruit juices) floods the liver with a fructose-glucose cocktail in a way that eating an apple does not. Research indicates that how quickly the liver must work affects how it metabolizes these monosaccharides.

Backed by a number of biochemists, Dr. Robert Lustig, a specialist on pediatric hormone disorders and expert in childhood obesity at the University of California, San Francisco, argues, according to Taubes, “that sugar has unique characteristics, specifically in the way the human body metabolizes the fructose in it, that may make it singularly harmful, at least if consumed in sufficient quantities.”

Studies of laboratory rats and mice by biochemists such as Michael Pagliassotti have shown that the liver converts fructose, ingested in ample amounts at gross speeds, into fat. This fat, in the form of palmitate, accumulates in the liver, and a condition known as insulin resistance often results. Insulin resistance, whereby cells fail to respond to the natural insulin hormone and are unable to take in glucose, amino acids and fatty acids, has been linked to an increasing array

of chronic health issues, including obesity, type 2 diabetes, heart disease, and even cancer.

According to Pagliassotti and reported by Taubes, these debilitating health changes can occur in as little as a week, if sugar or fructose comprises 60 or 70 percent of the calories in lab animals’ diets, or over several months, if the animals are fed a 20-percent sugar/fructose calorie diet, which closely approximates what humans, at least in America, consume. But here’s the clincher: When sugar consumption is halted in either case, “...the fatty liver promptly goes away, and with it the insulin resistance.” Similar effects have been shown in humans, but generally only with pure fructose, which is not the equivalent of sugar or high-fructose corn syrup.

### The Beef Over Beverages

As research indicates, sugar and its derivatives are particularly troublesome when ingested in liquid form.

Sugar-sweetened beverages, including soda, sports drinks, energy drinks, fruit drinks and sweetened coffees and teas, are among the most common and direct forms of empty-calorie intake and global sugar consumption. They account for 46 percent of the added sugar in American diets, according to the USDA’s Dietary Guidelines for Americans, 2010, and are the largest single caloric food source in the United States at almost 15 percent of daily caloric intake in several population groups, including adolescents, notes the Center for Science in the Public Interest (CSPI).

In fact, although *Beverage Digest* reports a decrease in soda consumption in recent years, 48 percent of Americans aged 18 and older drinks a soda every day, reveals a July 2012 Gallup poll. The average 12-ounce can of soda contains about 10 teaspoons of sugar, or 40 grams, and packs around 160 calories. It may also contain caffeine, a mildly addictive, stimulant drug.



About half of the U.S. population aged two and older consumer a sugar-sweetened beverage every day.

At the same time, on a typical day, about half of the U.S. population aged 2 and older consumes a sugar-sweetened beverage, and 25 percent downs at least 200 calories (more than one 12-ounce cola can’s) worth of “liquid candy.”



reports the Centers for Disease Control and Prevention (CDC) in its National Health and Nutrition Examination Survey (NHANES), 2005–2008, which was released in August 2011. Research reveals that the majority of these sugary drinks are consumed at home.

All told, the average American drinks about 40 gallons of sugar-sweetened beverages annually, notes CSPI. This adds up to as much as 4,250 teaspoons, 17,000 grams or 37 pounds of sugar and 68,000 empty calories every year!

Meanwhile, a typical 10-year-old has to bike vigorously for 30 minutes to burn the calories in a 12-ounce soda, and a typical adult has to walk briskly for 46 minutes to burn the calories in a 20-ounce one. But given modern-day obesity rates, how often do such actions regularly occur?!

### Added Sugars Compound the Problem

Sugar-sweetened beverages aren't the only culprit in the current sugar epidemic.

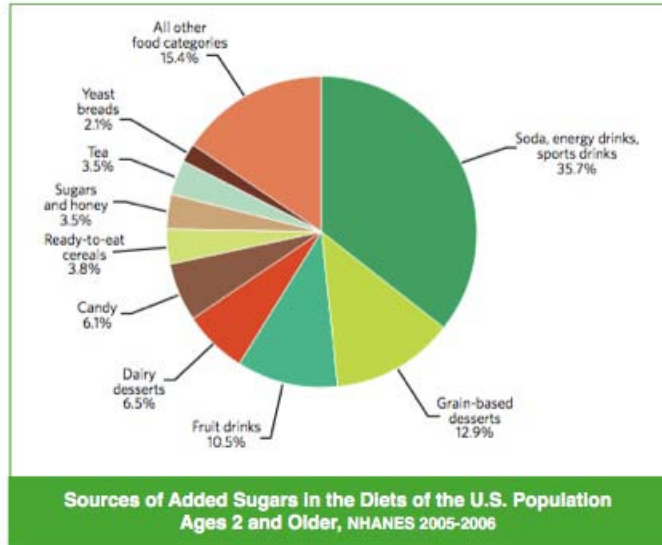
Tens of thousands of commercially available processed foods contain added, or "hidden," sugars. In fact, of the 85,451 unique commercially available foods procurable for purchase between 2005 and 2009, 75 percent, or 64,088, contained added sweeteners, details research by Dr. Barry Popkin, a professor of nutrition at the University of North Carolina School of Public Health.

According to the USDA's Dietary Guidelines for Americans, 2010, "the majority of sugars in typical American diets are sugars added to foods during processing, preparation, or at the table" to "sweeten the flavor of foods and beverages...improve their palatability...preservation...and...provide functional attributes, such as viscosity, texture, body, and browning capacity."

Take the quintessential plain bagel. According to the USDA's Nutrient Database, it contains a total of 5.05 grams of sugar, 4.8, or 95 percent, of which are added. Whole-wheat bread may be a better choice than white, but one slice typically packs 5.57 grams of sugar, 5 grams, or 90 percent, of which are added, the database reveals. And when it comes to cereal, corn flakes may be a lower-sugar option, but a bowl still has around 6 grams of the sweet stuff, all of it added. Meanwhile, granola bars and fruit-flavored yogurts tend to be loaded with added sugar – 20.4 (94 percent) and 11.4 (60 percent) grams, respectively – while a serving of Italian salad dressing delivers almost 9 grams of sugar,

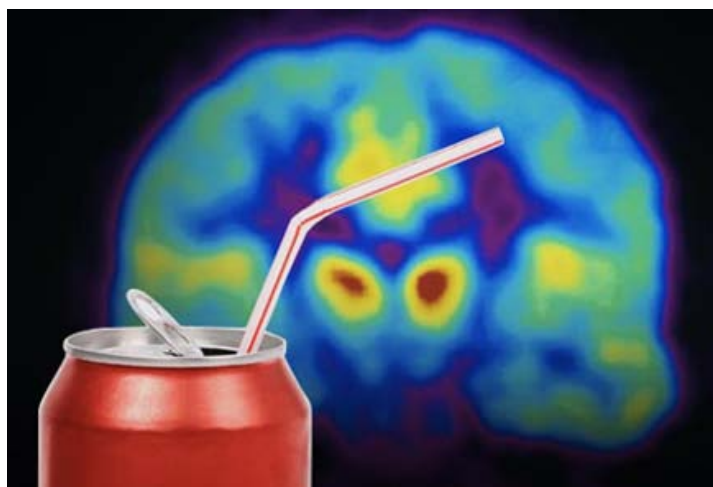
78 percent of it tossed in for the purposes of palate, preservation and plasticity.

In short, added sugars run rife, contributing about 16 percent of the total calories in American diets, according to the CDC and other sources, often through basic, and seemingly innocuous, food items. Yet, the current USDA dietary guidelines recommend keeping calories from added



sugar to no more than 5 to 15 percent of total daily calories. And the American Heart Association advocates limiting added sugars to no more than 100 calories a day for most women and 150 calories a day for most men – about six and nine teaspoons, or 24 and 36 grams, respectively. Unfortunately, most Americans get more than 22 teaspoons – or 355 calories and 88 grams – of added sugar daily, far exceeding recommendations.

The major sources of added sugars in the American diet (as a percent of calories from total added sugars) are soda, energy drinks and sports drinks (36%), grain-based desserts (13%), sugar-sweetened fruit drinks (10%), dairy-based desserts (6%) and candy (6%), reveals a 2005-2006 NHANES conducted by the National Cancer Institute.



Sugar and its effects are a source of interest and study

### Counterattack: Sending Sugar a Message

In Lustig's view, sugar should be considered a toxic substance that people abuse, like cigarettes and alcohol – and as something that is killing us.



Although particularly outspoken, Lustig isn't alone in this thinking, says Taubes. Growing numbers of experts are beginning to classify sugar and its derivatives as "chronic toxins," substances that are virulent after regular, repeated, long-term use. The only way to know whether this is the case, however, is through in-depth studies and the accumulation of irrefutable data.

In the meantime, experts aren't taking chances, and are working to curb sugar consumption and exposure. One of the most recent actions on this front involves a proposed ban in New York City on the sale of sugar-sweetened beverages in containers larger than 16 ounces by venues regulated by the health department, including restaurants, movie theaters, sports and entertainment arenas, and mobile food vendors. (Vending machines and convenience stores, such as 7-Eleven and its Big Gulps, would be exempt, and the ban would not affect fruit juices, dairy-based drinks like milkshakes, alcoholic beverages or pre-packaged no-calorie diet sodas.)

Aimed to help curb runaway obesity rates, this proposal by New York City's health department and Mayor Michael Bloomberg was scheduled to go into effect in March 2013. In October 2012, however, the soft-drink industry (for which carbonated beverages and sodas account for almost 24 percent of drinks sold in movie theaters and restaurants) joined with several New York restaurant and business groups to file a lawsuit to overturn the restrictions, contending that the New York City Board of Health did not have the authority to ratify the new rules unilaterally. A state Supreme Court judge agreed, and the ban is currently on hold, awaiting appeal.

Nevertheless, the floodgates are open. New York City's Portion Cap Rule is already voluntarily underway in Brooklyn's new 18,000-seat Barclays Center, and other cities, states and municipalities are following suit. In October 2012, for example, members of Washington, D.C.'s City Council said they were considering measures, and previously, in June, the mayor of Cambridge, Mass. proposed restrictions similar to New York's. Also in June 2012, a Los Angeles councilman issued a motion to bar the sale of sugary drinks from public spaces, while in November, voters in Richmond and El Monte, Calif., overwhelmingly rejected (possibly due to the American Beverage Association spending a reported \$4 million on signs, campaigns and appeals to oppose them) proposals to raise revenues by taxing sugary drinks and using the proceeds to fight childhood obesity.

Yet, since 2009, according to the Yale Rudd Center for Food Policy and Obesity (as reported in *The Atlantic Journal-Constitution*), 19 states and eight cities have proposed excise taxes on sugary drinks; 13 cities and counties have banned sugary drink sales on municipal property; and nine countries have levied sales or other taxes on such drinks. A national 2-cent tax on a can of soda in the United States alone would raise \$3 billion annually, according to CSPI's Liquid Candy tax calculator (<http://cspinet.org/liquidcandy/>).

CSPI squarely supports taxes as a "tried and true public health measure" with a history of success in limiting both cigarette and alcohol use. And various taxes related to sugar have been instituted to effect in countries such as Hungary, Thailand and France, and U.S. states, including Virginia, West Virginia, Arkansas and Tennessee.

Volume-based excise taxes can encourage smaller portions of sweetened products and reduced intake of sugar and its derivatives. With soft drink consumption, a 10 percent increase in price delivers anywhere from an 8 to 12 percent drop in intake, although to have a significant effect on population health, such taxes need to be at least 20 percent, asserts research published in 2012 in the *British Medical Journal*. One U.S. study found that a 35 percent tax on sugar-sweetened drinks sold in a canteen led to a 26 percent drop in sales. While real-world results are elusive, the revenue reaped from such taxes has – and should have, according to the Rudd Center – the ability to do good. In Hungary, these tax proceeds go to support healthcare costs; West Virginia uses soda tax revenues to support its medical, dental and nursing schools; and Arkansas, where a soda tax has been in force since 1992, earmarks that revenue – more than \$46 million in 2009 – to the state's Medicaid program.

Healthful actions and substitutions are not a given to policy "fixes," however, caution David R. Just, Ph.D., and Brian Wansink, Ph.D. of Cornell University's Charles H. Dyson School of Applied Economics and Management in an *NEJM* "Clinical Decisions" piece. Taxing soft drinks in Utica, N.Y., for example, led beer-buying households there to increase their purchases of beer, they note, observing that "a preference for less healthful foods, including sugar-sweetened beverages, strengthens when it appears that a tax is being used to restrict consumption."

Representatives for the multi-billion-dollar soft-drink industry appear to agree, arguing that people have a right to make their own consumption decisions, shouldn't be punished for exercising this right, and know how to limit their sugar intake. Meanwhile, Coca-Cola has introduced more teas, waters and reduced-sugar drinks over the past five years, and now offers 800 low- or no-calorie options, according to a global sustainability report released in November 2012. In addition, the beverage industry, which decreased the number of sugary drinks put in school vending machines by 90 percent between 2004 and 2010, has announced plans to launch a "Calories Count™ Vending Program" this year that will promote lower-calorie products in all vending machines.

### **Making A Difference On a Mass Scale**

Taxing sugar and its vehicles, and using the funds to support local nutrition, healthcare and physical activity efforts is one way governments can try to regulate consumption, restrict access and boost awareness in the name of public health and skyrocketing medical costs.

Prohibiting the use of Supplemental Nutrition Assistance Program (SNAP) benefits and other city, county, state and federal funds to purchase sugar-laden products is another



strategy. This could encourage healthier choices, especially if coupled with differential pricing or subsidies for fresh fruits and vegetables for SNAP recipients, incentives to attract quality supermarkets to low-income neighborhoods to increase access to healthy food, and guaranteed, on-demand availability of clean drinking water.

Eliminating or limiting the sale of sugar-laden drinks and snacks, and the presence of their sponsorships and logos, on government-owned property, in public vending machines and cafeterias, and at government-organized events, meetings and programs could send a strong message and be a means to moderation. So could limiting portion sizes through regulation, which would counter the trend towards super-sizing of unhealthy fare, while still offering consumers control over their consumption choices and amounts.

In its “Guide to Strategies for Reducing the Consumption of Sugar-Sweetened Beverages,” the CDC also proposes including screening and counseling about sugar intake as part of routine medical care and training medical care providers to conduct such services as part of a general program to modify behavior and reduce sugar consumption on a mass scale.

### Rethinking Sugar and Its Consumption on the Consumer Front

Ultimately, consumers are responsible for their individual dietary decisions and sugar intake. Since the best defense is a strong offense, another way to monitor and limit consumption is through education – knowing all the names for sugar, reading labels, being conscious of buying decisions and motivations. The USDA Supertracker can also help. Its Food-A-Pedia feature (<https://www.supertracker.usda.gov/foodapedia.aspx>) enables users to look up nutrition information, including data on added sugars and calories from sugar, for more than 8,000 foods; users can also compare foods side-by-side.

In addition, being aware of product positioning and its effects when making food and beverage decisions is important. Because, as experts agree – and controlled studies and market research show – placement matters.

“What and how much people eat are highly influenced by contextual factors,” explain Deborah A. Cohen, M.D., M.P.H., and Susan H. Babey, Ph.D. in their October 2012 *NEJM* article, “Candy at the Cash Register — A Risk Factor for Obesity and Chronic Disease.” Most purchasing decisions are made automatically, in less than a second, they note, with choices of sugary and fatty foods taking less time than those of healthful ones; and having just made other decisions or being distracted, stressed and/or tired makes it even harder “to resist palatable foods in convenient locations.”

Cohen and Babey recommend treating “the prominent placement of foods associated with chronic diseases” as a risk factor, and they suggest harnessing market research to test new approaches to risk-reduction such as “limiting the types of foods that can be displayed in prominent end-of-aisle locations and restricting foods associated with chronic diseases to locations that require a deliberate search to find.”

Meanwhile, corporations are harnessing their own market research. Nearly \$1 billion a year is devoted solely to promoting sugar-sweetened beverages, with much of this advertising seen by children. At the same time, the packaging of sugar-laden drinks and foods is designed for individual, immediate and continued consumption, with portion sizes ballooning in recent decades. Placement of these palatable items within easy reach and at key points promotes impulse purchases, while volume-based discounting encourages “super-sizing,” argues Thomas Farley, M.D., M.P.H. of the New York City Department of Health and Mental Hygiene in a *NEJM* 2012 “Clinical Decisions” piece.



Temptation is powerful, and retailers are adept at tapping it for impulse purchases; still, some establishments are offering alternatives and presumably putting customer service over palate-based purchasing decisions.



CSPI recommends encouraging retailers to remove sweets and sugared drinks from check-out lane displays. Strengthening ordinances to restrict the amount and type of signage on stores and buildings, implementing social marketing campaigns and regulating the packaging of sugar-loaded items to make it less snazzy and appealing (à la what some countries are doing with cigarette packs) could also help minimize exposure to product pushes and temper the influence of advertising and marketing messages in consumption decisions.

“The use of simple behavioral nudges, such as making soft drinks less visible and less convenient, can have a big effect on consumption...,” agree Just, and Wansink. They note

that behavioral approaches have been successful in increasing fruit and vegetable consumption among children by making these products more visible and attractive by associating them with exciting names like “x-ray-vision carrots” or a well-known fictional character such as Batman. Unlike Farley and others who advocate for government directives, however, Just and Wansink believe “voluntary approaches are much more likely than regulations to create long-term behavioral habits.”

Be that as it may, CSPI is lobbying the U.S. Food and Drug Administration to require labels on non-diet soft drinks stating that frequent consumption of these drinks promotes obesity, diabetes, tooth decay, osteoporosis and other health problems. Meanwhile, in July 2012, the secretary of the U.S. Department of Health and Human Services received a letter signed by more than 100 organizations and individuals asking her to direct the surgeon general to prepare a report on the health impacts of sugary drinks and issue a call to action to spur national efforts, both governmental and voluntary, to reduce their consumption.

### Focusing on the Future

And what about the world’s children, consumers in their own right?

While the home may be Ground Zero for sugar consumption, exposure to sweetened food and beverages is sometimes introduced, and very often fueled and reinforced, at school and through local communities.

There are some straightforward and obvious actions administrators and institutions servicing youth can take to counter such influences and contain sugar consumption. Subsidizing fresh fruits and vegetables in schools and establishing farm-to-school programs and/or school and community gardens can promote healthier foods and encourage “buy-in” and pride in their consumption. And



Salad bars are one way to encourage healthier eating in schools – and they tend to be surprisingly popular with the kids

eliminating the provision or sale of sweetened food and beverages in childcare and after-school programs, and banning or limiting the sale of such items on school property, including in cafeterias and vending machines, has the potential to significantly reduce kids’ intake.

CSPI also recommends changing local zoning laws to limit the number/density of sweetened food and beverage retailers near schools and playgrounds. Additionally, it suggests establishing minimum nutrition standards for children’s meals that include toy-giveaways and other incentives, and eliminating the sale and marketing of sweetened food and drinks at venues frequented by children, such as zoos, museums and parks.

### The Bottom Line

Around the world, people are talking, policies are being drafted, and progress is being made on many fronts to counter sugar’s overconsumption and curb its harmful effects. But sugar is a coveted commodity, capable of creating popular products that are both physically appetizing and financially attractive, and the campaign to quash its hold on modern humans, command of corporate balance sheets and impact on public health is destined to be difficult.

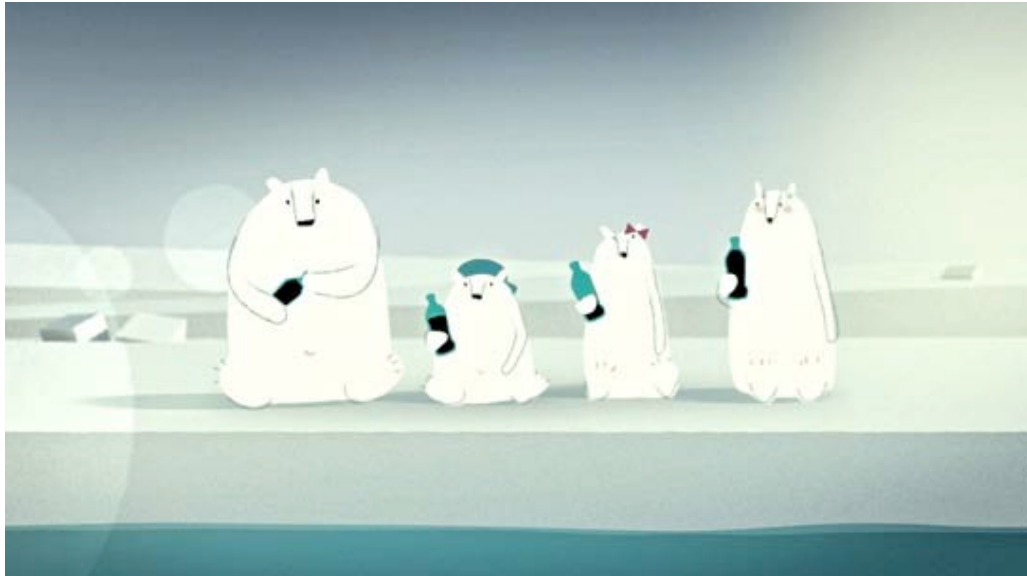
Such a push is imperative, however, and its objectives ultimately achievable.

A supportive food environment is the key, asserts Farley. One that is mindful of the superpower status of sugar and responsibly checks its ability to appeal through availability, placement, promotion, packaging and pricing. An environment that takes into account current scientific data. And one that approaches policy decisions in an integrated, as opposed to an isolated, manner.



## Soda Wars: Advocacy Group Shines Harsh Spotlight on Sugary Drinks

Taking on Big Soda is no small matter. Maybe that's why the Center for Science in the Public Interest (CSPI) decided to aim high and hit the industry where it hurts, using the world's best-known soda maker's own promotional materials against it in a recent sugary beverage blitz.



Escalating its long-standing campaign to reduce the

consumption of soda and other sugared drinks, the D.C.-based advocacy group released an animated short film satirizing The Coca-Cola Company's use of happiness and computer-generated polar bears to sell soda – exposing the drinks' unhappy health consequences in the process. Premiering in October 2012, CSPI's ["The Real Bears"](#) features a family of soda-guzzling polar bears that becomes progressively disease-ridden due to its beverage habit before pouring its "pop" into the sea, and reclaiming health and happiness.

A family of polar bears ponders its prodigious pop consumption in CSPI's "The Real Bears," an animated short film satirizing The Coca-Cola Company's use of happiness and computer-

Filmmaker Morgan Spurlock of Super Size Me fame called "The Real Bears" "one of the most brilliant counter-campaigns ever created," while fitness expert Jillian Michaels, publisher Arianna Huffington, "Bizarre Foods" host Andrew Zimmern, consumer advocate Ralph Nader, and "TODAY" Show nutrition and health expert Joy Bauer were among the thousands of people who tweeted about the film.

The video went viral, spreading rapidly on Facebook and Twitter after USA Today called it "the video that Coca-Cola does not want you to see." Created by ad guru Alex Bogusky and featuring an original song, "Sugar," by singer-songwriter Jason Mraz, the animated short has been viewed more than 2 million times since its release.

### The "Truth"...

"This project attempts to contrast the marketing hype around soda with the stark reality, and it is my hope that it makes some small contribution to a critical cultural awakening," commented Bogusky, who formerly helmed advertising campaigns for Coke Zero and Burger King, in addition to the American Legacy Foundation's "Truth" campaign, the most successful youth-focused anti-tobacco education initiative in U.S. history.

"Coke and Pepsi have skillfully cultivated incredibly strong emotional bonds with consumers around the world even though their products actually cause quite a bit of misery," said CSPI Executive Director Michael F. Jacobson. "'The Real Bears' seeks to get people thinking about what they're drinking. We don't have their budgets, but we do have the truth."

### ...And Nothing But the "Truth"

The Coca-Cola Company begs to differ, however, vehemently opposing "The Real Bears" as "irresponsible and grandstanding," and contending that the video "distorts the facts while we and our industry partners are working with government and civil society on real solutions."

The "real truth" likely lies somewhere in between.





“[‘The Real Bears’] certainly makes it seem as if colas are to blame for everything from erectile dysfunction to unemployment,” noted *Boston Globe* staff writer Deborah Kotz in October 2012 on the paper’s “Daily Dose” blog. “[B]ut in creating a distortion similar to [Coke’s] original teach-the-world-to-sing video...it certainly sends a powerful message,” she added.

Kotz goes on to state that The Coca-Cola Company could have clarified its argument by pointing out that the current obesity problem and rise in diabetes wasn’t caused by a single food and won’t be cured by a single solution.

### Damaged Control

While Coke and CSPI duked it out in the media, consumers were employing the tools of the trade to make their own “Pour One Out” videos for a contest sponsored by CSPI in conjunction with “The Real Bears.” The Pour One Out Video Contest invited the public to produce short movies demonstrating the pouring out of sugary drinks in a creative way. Bogusky and CSPI staff judged the contest entries on creativity, originality and effectiveness of the health message, offering a \$1,000 prize for the winning film, a Nashville, Tenn., family’s rap video inspired by its stay-at-home dad’s personal struggle with soda consumption, and

\$500 and \$250 prizes for the second- and third-place films, which were produced by 5th-grade students in Incline Village, Nev., and an information-technology professional from St. Metairie, La., respectively.

Not inclined to rest on its laurels, in January 2013, CSPI released a [video "translation"](#) of Coke’s recent two-minute-long “Coming Together” ad addressing obesity. The widely jeered original – *Adweek* deemed it “awkward” and “a surprisingly ham-fisted answer to the latest attacks on the soda industry” – gave the impression that all sources of calories are equal, when in fact liquid calories are more conducive to weight gain than solid calories, according to the advocacy group. CSPI’s translation also points out that, while Coke’s ad congratulates the soda industry for “voluntary changes” in schools, those changes came about only after parents, school boards and state laws started pushing soda out of educational institutions.

So, the “Battle of Big Soda” continues – with the front line switching to places like New York City, where a charge to ban the sale of large sugary drinks in city-regulated venues is being led by “General” Mayor Michael Bloomberg and his troops at the New York City Department of Health.

## CECHE NEWS

A Man for All Freedoms:

## Mark Palmer Leaves Legacy of Liberty and Change

On January 28, 2013, CECHE – and up-and-coming democracies around the world – lost an important and influential advocate, advisor and friend. On that winter day, at the age of 71, Robie Marcus Hooker Palmer, known to all as Mark, lost his protracted battle with melanoma, leaving behind a legacy of democratic activism, and a void, both professional and personal, that will forever go unfilled.

Yet, while such high-profile undertakings made the front page, they were part of Mark’s larger, lifetime commitment to democracy, freedom and human rights, and the taking of personal risks to advance those causes.

As a student at Yale University in the early 1960s, Mark supported the Student Nonviolent Coordinating Committee and joined its civil rights demonstrations and Freedom Bus rides in the South, which was a bold and dangerous thing for a white student to do at the time. Taking similar risks, as a young U.S. Foreign Service officer, he sought out and met with dissidents in Moscow and Belgrade in the 1970s – a mantle he would take up again in the late ‘80s as ambassador to Hungary, prompting scrutiny by the media, his mentors and State Department officials.

Mark may be best remembered as U.S. ambassador to Hungary during the collapse of communism and principal author of President Ronald Reagan’s celebrated 1982 speech to the British Parliament that placed Marxism on “the ash heap of history” and launched the National Endowment for Democracy.

These are indeed ones for the history books.

In addition to U.S. Ambassador in Budapest, Mark served at the U.S. Embassies in New Delhi, Moscow and Belgrade, and in Washington, D.C., as deputy assistant secretary of state for European Affairs, during a Foreign Service career that spanned 26 years, from 1964 to 1990. As the State Department’s top expert on Soviet affairs, Mark was responsible for organizing the 1985 Geneva summit between Reagan and Soviet leader Mikhail Gorbachev, which was considered a “diplomatic breakthrough that led to a thawing of relations between the two superpowers.” He was speechwriter to three U.S. presidents and six U.S. secretaries of state, including sole speechwriter for Henry Kissinger from 1973 to 1975.

“It’s not too much to say that the democracies of Central Europe owe a lot of debt to Mark Palmer,” remarked Andras Simonyi, U.S. ambassador to Hungary from 2002 to 2007.





Mark Palmer, Former U.S. Ambassador and democracy advocate, 1941-2013

In addition to co-founding the National Endowment for Democracy (NED) and serving nine years on its board, for nearly 20 years (from 1994 to 2008), Mark was vice chair of Freedom House, a private pro-democracy organization founded by Eleanor Roosevelt. He helped establish the Community of Democracies, an international association of democratic governments that meets annually in support of democracy and human rights, and which now gives The Mark Palmer Prize to diplomats who display valor and take risks or are especially inventive in their efforts to assist civil society to advance democracy. Mark was also co-founder and honorary chair of the International Management Center in Budapest, the first such Western-style school in communist Eastern Europe.

Immediately after the fall of the Berlin Wall, Mark, together with several leading U.S. and Canadian businessmen, established the Central European Development Corporation. He served as the corporation's president from 1990 to 1997, during which time the group developed the American Business Center at Checkpoint Charlie, a 2 million square foot mixed-use, nine-building site in the heart of the unified Berlin.

Around the same time, with his wife of 47 years, Dr. Sushma M. Palmer, Mark co-founded the Center for Communications, Health and the Environment (CECHE) and served as the organization's vice chairman and treasurer. Over the years, he supported and spearheaded several democracy and health projects for CECHE. These included a Global Democracy and Health Program that emphasized the link between democracy, human rights and human health, and a 2007 Freedom House initiative that brought together U.S. and Chinese experts to examine China's internal repression and growing support for other

non-democratic countries. Because of Mark, CECHE also partners with Freedom House on the "Worst of the Worst: The World's Most Repressive Societies," an annual report that calls attention to human rights violations.

In 2003, under the umbrella of CECHE, Mark published *Breaking the Real Axis of Evil: How to Oust the World's Last Dictators by 2025*, in which he argued for revamping U.S. foreign policy to make worldwide promotion of democracy its foremost goal and which became the basis for the "ADVANCE Democracy Act of 2007" signed into law by President George W.

Bush. The Act significantly strengthened U.S.

government and nongovernmental democracy programs, and for the first time required the State Department to work with local democrats and civic activists to develop written strategies for the promotion of democracy in all currently non-democratic countries or those transitioning to democracy.

As a tireless supporter of pro-democracy efforts in the world's most repressive regimes, Mark was a frequent contributor of policy and advocacy pieces to leading media outlets, of expert testimony and policy counsel to Congress and the executive branch, and of advice and advocacy to nongovernmental groups, political leaders, activists and others seeking self-rule. In partnership with the Community of Democracies (which represents 120 democratic governments and nongovernmental organizations from free and not-free countries) and support from foreign and local governments and private sources, Mark and CECHE developed *A Diplomat's Handbook for Democratic Development Support*, a guide for diplomats to use on the ground that was followed by a similar military handbook to address the role of the armed forces in supporting pro-democracy efforts.

As vice chair of CECHE, Mark also led U.S. efforts to support the Global Internet Freedom Consortium, an initiative to overcome the internet firewalls of China, Iran and other authoritarian states with anti-censorship systems. In addition, he chaired the advisory board of New Tang Dynasty Television, strongly backing the launch of the first uncensored satellite TV broadcasts into China.

As an extension of his CECHE alliances and pro-democracy efforts, Mark also founded Central European Media Enterprises Ltd. (CEME), which, with local partners,



established, owned and operated the first politically independent national television stations in the Czech Republic, Slovakia, Slovenia, Romania, Ukraine and Poland. The Czech station, NOVA TV, whose board Mark chaired for its first two years, was described by the Financial Times as the most successful start-up in television history, and today, it and the other CEME stations reach more than 50 million people across the region.

Expanding beyond Central and Eastern Europe, Mark was also a director and investor in MCT Corporation, a mobile telecommunications company in Russia and Central Asia, and co-founder of Television Development Partners and SignalOne Media Corporation – both ventures for the establishment of independent, commercial satellite TV channels in the Middle East.

Back in the United States, as president of Capital Development Company and Building DC LLC in Washington, D.C., Mark focused on projects aimed at economically productive redevelopment of the Capital's metropolitan area, beginning in the late 1990s with the construction of Knox Hill Village, a planned development of more than 100 houses for low- to middle-income families in Southeast D.C. He also supported and participated in the purchase and rehabilitation of more than a dozen apartment buildings in other inner-city neighborhoods.

Mark's passion and fight for freedom did not go unrecognized. He was the recipient of three Presidential Awards and two Superior Honor Awards from the Department of State in the course of his U.S. Foreign Service career. In addition to Hungary's Marton Aron Prize and the Baltic Freedom Award, he received the Commander's Cross of the Order of Merit of the Republic of Hungary and the Officers Cross of the Polish Republic for assisting in Poland's liberation from communism. During his lifetime, he served on the boards of the Johns Hopkins School of Advanced International Studies, the Georgetown University Institute for the Study of Diplomacy, the Budapest International Centre for

Democratic Transition, the American Academy of Diplomacy, the Association for Diplomatic Studies and Training, the University of the District of Columbia and the Friends of Falun Gong. From 2006 to 2009, he was also a member of the Secretary of State's Advisory Committee on Democracy Promotion.

Mark Palmer was born on July 14, 1941 in Ann Arbor, Michigan to the late U.S. Navy Captain (later Commander) Robie Ellis Palmer and the late Katherine Hooker Palmer, granddaughter of Civil War Colonel George W. Hooker, an Antietam Medal of Honor awardee who was appointed assistant adjutant general of volunteers for the Union Army by President Lincoln.

Mark made a difference for millions around the world with his words and actions, and his passing has left a hole in many hearts.

"[He] was more than an impassioned democracy advocate. He was an unsurpassed entrepreneur of democracy – innovative in coming up with creative new ideas to advance the cause, savvy in seizing the right moment to act, and sophisticated in developing practical strategies to get things done," eulogized NED President Carl Gershman in April 2013.

"He was the right man at the right time at the right place," noted Hungarian Prime Minister György Gordon Bajnai in 2009 when awarding Mark his country's Order of Merit.

Mark succeeded where people thought it was impossible, and his determination, charisma and vision will live on and continue to inspire others in the fight for freedom that he so passionately and tirelessly championed.

*For more insight into Mark's life and legacy, visit <https://vimeo.com/64315036> to view a professionally produced 12-minute documentary about him.*

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The Center For Communications, Health & The Environment (CECHE)



Dr. Sushma Palmer, Program Director

Valeska Stupak, Editorial & Design Consultant

Shiraz Mahyera, Systems Manager

Rohit Tote, Website consultant

