Taxing Sugar-Sweetened Beverages to Lower Childhood Obesity

Public Health and the Law

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Introduction
Public health officials, pediatricians, nutritionists, and policymakers are increasingly targeting sugar-sweetened beverage (SSB) consumption as a major contributor to childhood obesity. As of 2014, 1 in 3 American children (aged 2-19 years) is overweight; half of these kids, or 17% nationally, are obese. Sodas, sports drinks, coffees, and other SSBs packed with calories but largely devoid of nutritional substance constitute the largest source of added sugars in American kids’ diets. U.S. dietary guidelines released in 2016 recommend a daily maximum of 50 grams of sugar for persons 3 years and older. Most children ingest more than the recommended sugar per day by preschool, largely through SSBs. Consuming even one SSB serving per day correlates positively with weight gain for children and adolescents. Worse yet, kids who regularly drink SSBs are likely to find nutritious foods unappetizing, choosing unhealthy options leading to weight gain.

Reducing SSB consumption can lower children’s weight and blood pressure, decrease risks for heart disease and Type II diabetes, lessen tooth erosion, and improve cognitive functioning. In one study, obese children who decreased their added sugar consumption saw significantly decreased LDL cholesterol, blood pressure, and triglyceride levels in just 10 days. Not surprisingly, multiple measures are already underway to reduce kids’ access to SSBs at school, the marketplace, and home. The number of students who can purchase soda at school was cut in half from 2007 to 2011. Wendys, Dairy Queen, and other restaurants have voluntarily adopted policies to remove carbonated soft drinks from kids’ menus. Health departments including Los Angeles County have launched campaigns to educate parents on the dangers of serving sugary drinks to children. The Food and Drug Administration (FDA) has proposed mandatory labeling of a product’s percentage of the daily-recommended value of sugar.

Still, American children overconsume SSBs. Advertisements featuring cartoon animals, performers, and prominent athletes mislead children (and their caregivers) to believe these beverages are beneficial. Poor and uninformed beverage choices contribute to higher medical costs and negative societal externalities. Drastically reducing childhood SSB consumption requires more affirmative public and private sector interventions, involving taxation.

Efficacy of Taxation in Reducing SSB Consumption
Policymakers have strong incentives to tax SSBs based on lessons learned from long-standing efforts concerning tobacco products. The World Health Organization (WHO) cites excise taxation (i.e., taxes paid at purchase) as the single most effective tool in reducing the demand for tobacco use, particularly among children and adolescents. The Centers for Disease Control and Prevention (CDC) reports that tobacco taxes have led to a 9.4% decrease in smoking among U.S. high school students between 1991 and 2011. Like tobacco use, habitual SSB consumption starts early in life for many, is greater among low-income populations, and imposes significant health care costs.

About This Column
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In 2009, Dr. Kelly Brownell and colleagues proposed implementation of excise taxes to curb SSB consumption and raise significant revenue. Based on the price elasticity of soft drinks, they recommended an SSB excise tax of 1-cent-per-ounce, or about 15-20% of the purchase price. Such a price increase could yield a 12-20% reduction in SSB purchases, and a minimum of 10% overall caloric reduction (accounting for expected caloric substitutions from other sources).

Enhanced taxation of SSBs at the point of purchase is proliferating internationally (e.g. France, Belgium, Barbados) as a strategy to reduce SSB consumption and yield long-term public health benefits. In 2014, Mexico implemented a national 1-peso-per-liter (about 6 cents) SSB excise tax to help combat its 32.8% obesity rate. Even though Mexico’s tax rate was about half the rate that Brownell and colleagues recommended to significantly reduce consumption, researchers have already observed a 6% decline in SSB sales in 2014 directly related to the price increase. Declines in SSB sales spanned all income groups, but were most pronounced (9%) in low-income households which tend to drink more soda and have higher obesity rates. Mexican parents are serving fewer sugary drinks to their young, and schools are encouraging distribution of plain, unflavored water. To the extent excise taxes actually increase SSB prices (and are not absorbed by retailers to sustain sales), these results suggest they can substantially reduce SSB consumption.

SSB Taxation in the United States

Like the attempt to include a national SSB excise tax in initial versions of the federal Affordable Care Act in 2009, over 30 state (e.g. California, Vermont) and local (e.g., Philadelphia, Chicago) governments have failed to pass their own SSB tax proposals. The reasons are multitude. Some locales may be preempted via state law from setting or increasing SSB excise taxes. In Illinois smaller municipalities (≤ 1,000,000 pop.) are statutorily prohibited from taxing soft drinks, while larger jurisdictions are limited to taxes less than 9% of the price. Even in U.S. jurisdictions where taxes can be lawfully introduced, a major, reoccurring argument in opposition is that the alleged public health benefits of such taxes would be outweighed by burdens on small businesses, sales, and jobs. In 2008, New York Governor David Paterson proposed an SSB tax expected to curb consumption of beverages by 5%. The beverage industry depicted it as “a money grab” that would jeopardize New York’s 160,000 beverage-industry jobs. The tax never made it to the ballot. SSB taxes have also been opposed based on their regressive impacts on low-income Americans. When the cities of Richmond and El Monte in California proposed SSB excise taxes in 2012, supporters were portrayed as white elitists seeking to impose on minorities and the working poor. Neither tax proposal garnered a majority of votes.

While others failed, the City of Berkeley, California succeeded in passing the nation’s first SSB excise tax in 2014 high enough to curb consumption. Nicknamed “Berkeley vs. Big Soda,” the City’s initiative framed its tax as “taking a stand to protect the health of our children,” and exposed industry’s roles behind anti-tax campaigns. Advocates garnered support of low-income and minority populations through volunteer, grass roots efforts to explain health benefits underlying the tax. Economic concerns were mollified through exemptions for small businesses earning less than $100,000 in annual gross receipts. Berkeley also overcame arguments that it did not comply with California state law requiring impartial ballot language. California’s Proposition 13 requires all tax proposals earmarking revenue for a specific purpose to pass with a two-thirds “super-majority.” A similar tax proposal in San Francisco approved by 55% of voters fell short. To circumvent this ballot limitation, Berkeley proposed to create a panel of experts to recommend how revenue could be used to address SSB-related health problems, instead of earmarking revenue allocation directly on the ballot. In the end 76% of voters approved the proposal in November 2014, surpassing the supermajority requirement. Following implementation of the tax on January 1, 2015, researchers found a significant price increase in SSBs sold in Berkeley relative to price changes in non-SSBs and SSBs sold in surrounding cities. Further research is ongoing to ascertain effects on SSB consumption related to these price increases and Berkeley’s use of the tax revenues. The City is allocating $1.5 million of initial revenues to school nutrition programs and associated research grants.

Following Berkeley’s lead, other governments are vying to pass SSB taxes in 2016. Legislators in California have proposed a 2-cent-per-ounce “health impact fee” on sugary drinks sold in the state. Philadelphia mayor Jim Kenney proposed...
a 3-cent-per-ounce SSB tax geared toward funding universal preschool.\textsuperscript{36} Many public health advocates strongly favor these taxes given their potential to shift consumers away from SSBs long-term.

**Legal Components of Effective SSB Taxes**

Given evidence that excise taxes can be implemented and effective in curbing SSB consumption (much like with tobacco), policymakers should consider them as a tool to improve public health outcomes, especially among kids. The paths of successful passage and implementation of these taxes are diverse. However, key components include (1) appropriate definitions of SSBs, (2) setting an effective tax rate, and (3) proper allocation of tax revenues.

**Defining SSBs**

Consumers generally think of SSBs as non-diet sodas or other drinks with added sugars or other caloric sweeteners. Lawmakers’ conceptions of SSBs vary extensively. They include all beverages that contain any added caloric sweeteners, drinks whose sweeteners meet a certain caloric threshold, or just sugared sodas and fruit juices. Limited definitions raise the potential that applied taxes offer kids multiple, untaxed alternatives and thus fail to lower SSB consumption overall.

SSBs may be defined comprehensively to include “any non-alcoholic, packaged, or served beverage or mix that contains added sugar or other caloric sweeteners.” Under this definition, a tax would apply to prepared SSBs (e.g., canned or vended sodas, sports drinks, sweetened milks, Starbucks Frappuccino\textsuperscript{TM}) as well as powdered and other forms of sugary drink mixtures (e.g. Kool Aid,\textsuperscript{TM} Countrytime Lemonade\textsuperscript{TM}). Exemptions would be allowed for infant formulas and liquids where added sugar is necessary for health, such as Pedialyte\textsuperscript{TM} Non-taxed beverages include plain water, diet soda, and unflavored milk, fruit, and vegetable drinks containing only natural sugars or other natural sweeteners. This broader definition avoids consumer and retailer confusion over the variety of covered products and related sweetener additives and limits the potential for consumers to swap out one SSB in favor of another that is not taxed.

**Content-Based Tax Rates**

According to a 2009 Harvard survey, SSB added-sweetener content ranges between about 3 to 63 grams per 12-ounce serving.\textsuperscript{37} Most SSBs contain added sugars or other caloric sweeteners. This broader definition allows for exempting some beverages such as water, diet soda, and unflavored milk, fruit, and vegetable drinks containing only natural sugars or other natural sweeteners. However, the tax rate should be set based on the actual amount of added sugar content in the beverage.

Alternatively, SSB taxes could be calculated based on the actual amount of added caloric sweeteners. In 2016, the United Kingdom announced a plan to levy an SSB tax on drinks containing over 5 grams of sugar per 100 milliliters, with a higher tax rate for drinks containing over 8 grams of sugar per 100 milliliters.\textsuperscript{38} So, in essence, the sweeter the SSB, the higher it is taxed. If accurately set, this type of structured tax could lower intake of all SSBs and deter specific consumption of more harmful ones. SSB manufacturers in the U.K. are already taking steps to decrease sugars or substitute them with non-caloric sweeteners prior to implementation of the proposed tax in 2018.\textsuperscript{39}

**Revenue Allocation Reflecting the Tax’s Disproportionate Impact**

Food or beverage taxes that apply to everyone equally regardless of income can disproportionately impact low-income populations,\textsuperscript{30} which is politically unpopular and ethically troubling. These impacts cannot be avoided, but may be mitigated through responsible allocation of revenues that address the regressive nature of the tax on disadvantaged groups.\textsuperscript{31} As per Berkeley’s approach, SSB tax revenues can be devoted to nutrition and public health programs designed to help vulnerable groups. These may include subsidies for low-income households to purchase healthy foods, nutrition and cooking classes, childhood obesity prevention programs, school-based exercise opportunities or equipment, community gardens, or access to clean drinking water in underserved areas.

**Conclusion**

Overconsumption of SSBs places children at high risk for immediate and long-term health problems. Among many positive interventions to protect children from known public health harms, excise taxation of SSBs can effectuate behavioral change among kids and their caregivers. Initial data from reviews of SSB taxes in Mexico and Berkeley provide promising evidence of the viability of SSB excise taxes to lower consumption and improve child health. Future tax proposals built on broader definitions of SSBs, content-based tax rates, and responsible revenue allocation may overcome political and legal challenges toward combatting childhood obesity in America.

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**References**


