

Soda Regulation Is Not the Solution

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Recent widely-cited reports have bolstered the case against sugar-sweetened beverages (hereafter referred to as soda) in the name of preventing obesity. The Institute of Medicine's (IOM) 462-page report, *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation*, argued that wide-ranging changes are required to solve the nation's complex, stubborn obesity problem.¹

The very same week saw publication of a related article in the *American Journal of Preventive Medicine*, funded by the Centers for Disease Control (CDC). Its authors predicted that, by 2030, 42 percent of Americans will be obese and 11 percent will be severely obese, or 100 pounds overweight.² Currently, one in three adults and one in six adolescents and children are considered obese, which means they have a body mass index (calculated by dividing weight in kilograms by the square of the height in meters) of 30 or greater.

News media quickly responded with headlines informing readers that government researchers have concluded that obesity cannot be blamed on a lack of individual willpower. Examples included "obesity Fight Must Shift from Personal Blame—U.S. Panel"³ and "Study: Lack of Sidewalks Cause Obesity, Not Willpower."⁴ Cable channel HBO aired a documentary entitled "The Weight of the Nation" the week following release of the IOM study to strengthen the conclusion that individuals are unable to truly exercise choice when their options are limited and biased toward the unhealthy end of the continuum.

Public health advocates have since coordinated a public relations assault on soda by elevating it to the "poster child" of junk food and drink. A public health doctor who works for the New York City Department of Health and Mental Hygiene recently supported soda taxes, bans on large (more than 16 ounce) sized drinks, and other interventions when he claimed: "To do nothing is to invite even higher rates of obesity, diabetes, and related mortality."⁵ In the same week, *The New England Journal of Medicine* polled readers on whether "Regulation of Sugar-Sweetened Beverages" was a good idea.⁶ Polling indicates a majority favor such regulation.

Will this government intervention focused on soda benefit public health?

Overstating the Evidence

A recent attention-grabbing study concluded that a soda tax of one penny per ounce could prevent as many as 26,000 premature deaths over ten years.⁷ This tax on what the authors termed "sweet, cheap indulgences" and "liquid candy" would yield \$13 billion in tax revenues while avoiding \$17 billion in medical costs associated with obesity, diabetes, and cardiovascular disease.

Popular reports neglected to point out numerous "uncertainties and methodological challenges"^{7, p202} readily acknowledged by its authors. The key admission that "our model-based calculations rely on several key assumptions for which empirical evidence is still lacking or inconclusive"^{7, p202} would appear to be an important issue to highlight when its authors clearly state that "it is challenging to

predict consumers' responses to the proposed tax."^{7, p202}

The authors nonetheless assumed that each 10 percent increase in soda prices would decrease consumption by 8 percent. Hence, they assumed that a penny-per-ounce tax would reduce soda consumption by 15 percent. But, again, there are other details that deserve reporting such as the fact that the acknowledged association between soda taxes and obesity prevalence is "weak."^{7, p199} Nonetheless, they rationalize this assumption by stating, "This is probably because existing taxes on sales are too low to cause changes in calorie consumption that are substantial enough to change average body mass index."^{7, p199}

The logic thus appears to be that, even though little evidence so far supports the conclusion that soda tax hikes will significantly reduce consumption, we should keep raising taxes until they do elicit the response that proponents expect. But, this leap of faith ignores recent rigorous economic research that concludes that even an enormous 58 percent tax on soda (equivalent to the average federal and state tax on cigarettes) would drop the average body mass by only 0.16 points — a trivial effect given that obesity is defined as a body mass index of at least 30.0.⁸

The authors also assumed that 40 percent of the calories saved by drinking less soda would be replaced by drinking more milk and juice. This is better than assuming that soda drinkers won't replace any caloric reduction by substitution of other products, but still ignores common sense expectations that not all soda drinkers are identical or are even overweight. Authors acknowledge "little is known about whether people will tend to substitute other sugary food for these beverages,"^{7, p203} but this caveat is apparently too long to appear in headlines touting the outsized health benefits predicted by the authors.

Also glossed over is the common-sense expectation that taxes that dramatically lower consumption of those who drink little exert relatively little effect on heavy drinkers. Similar evidence has been found for light versus heavy consumers of alcohol and tobacco.⁹ There is little reason to suspect anything different in the case of soda taxes, thus calling into question the merits of further limiting consumption by those who drink little without significantly reducing it by those who drink a lot of soda.¹⁰

Cornell University researchers have also recently concluded that a 10 percent tax resulted in a short-term (1-month) decrease in soft-drink purchases, but there was no decrease in purchases over 3 months or 6 months. Moreover, in beer-purchasing households, the tax led to increased purchases of beer.¹¹ This study did not receive news coverage.

CDC has acknowledged that the majority of our sugar calories come from food, not beverages.¹² Moreover, CDC acknowledges that consumption of added sugars in the United States decreased between 1999–2000 and 2007–2008, primarily because of a reduction in soda consumption.¹² Other research also indicates that sales of full-calorie soft drinks have been declining in part because soda makers are meeting growing consumer demands for more no-calorie and low-calorie options. Evidence on youth

consumption trends is particularly enlightening. Between 2004 and the 2009–2010 school year, the beverage industry reduced calories shipped to schools by 90 percent; on a total ounces basis, shipments of full-calorie soft drinks to schools decreased by 97 percent.¹³ Availability of beverages sold from vending machines and student access to sugar-sweetened beverages has steadily decreased since the 2006–2007 school year.¹⁴

These seemingly important details are left out of the discussion by public health advocates taking singular aim at branding soda as public health enemy number one. Consuming additional calories clearly contributes to weight gain, but nutritional research suggests that soda consumption alone contributes little to the American obesity epidemic. One study criticizes the media for exaggerating the consequences of normal soda drinking.¹⁵ Meanwhile, soda taxes are unlikely to alter other factors often linked to obesity such as lack of exercise, age, genetics, and regular consumption of other high-calorie foods.

A “Bait and Switch” Tactic?

National attention recently focused on two small California cities—Richmond and El Monte—that considered penny-per-ounce taxes on their November 2012 ballots. Advocates hoped these first-in-the-nation citywide soda taxes would lead to the implementation of similar programs throughout the country. Both ballot measures were soundly defeated—67 percent of Richmond voters, and 77 percent of El Monte voters, responded no.

Voters were probably responding to concerns that neither city was likely to solve its obesity issue with the tax—and might not even have been interested in doing so. Both cities continue to experience high obesity prevalence and longstanding fiscal woes. El Monte officials readily owned up to their main interest in re-filling city tax coffers with as much as \$7 million per year.¹⁶ Richmond officials, on the other hand, insisted that the soda tax was necessary to curb the city’s obesity rate and pledged to use the city’s expected annual soda tax take of \$2 million–\$8 million for various programs such as new soccer fields and school gardens.¹⁷ Despite such promises, its soda tax was likely to spill into the city’s general fund and instantly become indistinguishable from any other tax dollar. Antiobesity advocates would surely fight alongside other interest groups for their promised portion, but were unlikely to exercise much clout when it comes to grabbing taxpayer dollars for their pet projects. Voters were apparently expecting a “bait and switch” with soda tax dollars.

It is particularly ironic that soda tax advocates proudly point to tobacco control as their model since so little tobacco tax revenue is actually used for tobacco control programs.¹⁸ As CDC recently reported, only 2.4 percent of total state tobacco revenues received in 2010 were used for tobacco control programs.¹⁹ The rest merely funded other government programs. But even if jurisdictions actually dedicated 100 percent of soda tax revenue to anti-obesity programs, there is the nagging lack of evidence that tobacco control programs were cost-effective uses of taxpayer money.²⁰

The usual sequence of events is as follows:²¹ A particular public health problem—smoking, obesity, alcoholism, etc.—is chosen. Government then only funds studies that demonstrate that programs are effective. Studies that question these claims are then ignored.¹⁶ Spending targets are then chosen based on these government-selected studies, and lack of effectiveness in practice is attributed to “underfunding.”

Reasons for Skepticism

It is worth considering that, good intentions aside, we should be skeptical of the notion that new interventions will lower obesity when research indicates that past programs may in fact have promoted obesity, even if unintentionally. One recent study finds that the typical female participant of the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamp Program) has a BMI that is significantly higher than the BMI of someone with the same socioeconomic characteristics who does not participate in the program.²² For the average American woman of height 5 ft 4 in, this equals a 5.8 lb weight increase.

Agricultural subsidies are often blamed for making food cheaper and more plentiful. There are many reasons to end farm subsidies that include the many distortions to economic efficiency. However, there is little evidence that ending them will significantly lower the prevalence of obesity. The influence of agriculture policies on caloric intake has diminished steadily over time,²³ and even entirely eliminating the current programs could not be expected to have a significant influence on obesity rates.²⁴

Another common claim is that “food deserts” cause obesity, especially in poor urban neighborhoods. Recent evidence, however, indicates that poorer neighborhoods have more fast-food restaurants and convenience stores than more affluent ones, but also more grocery stores, supermarkets, and full-service restaurants.^{25,26} Moreover, evidence does not support the commonly held view that the types of food sold in neighborhoods are connected to youth obesity prevalence.^{25,26} The conventional wisdom that fast food “causes” obesity has also been shown to lack empirical evidence.²⁷

Then there is the problem that government does not really know how much people should weigh. The federal Healthy People 2010 program has set goals of limiting obesity to just 15 percent of adults and 5 percent of children. It’s unclear why those percentages were chosen or even why a BMI of 30 has been designated the “obesity” threshold. These numbers may have been chosen simply for convenience—they’re all nicely divisible by 5, after all. But they were not the product of a careful, publicly available analysis of optimal weight.²⁸

Public health advocates believe that we will not see any improvement in obesity prevalence without their help. But, a growing demand for weight reduction is evidenced by the ever-growing market for diet books, health foods, weight-loss centers, exercise equipment, athletic clubs, and other methods people use to control their weight. Unlike government policies, weight-loss products and ideas are tested by consumers and failures are replaced by products that really help people control their weight. Regulation involves government officials picking one strategy over others and imposing them on all (fat or thin) citizens without having to win customers within a competitive marketplace.

Are the Obese Really Uniformed?

Common sense suggests that people who are aware that they are overweight also experience strong incentives to undertake their own strategies to lose weight.²⁹ Obese individuals know they are heavy and also suffer the stigma often linked to obesity. Recent research indicates that messages that were rated most stigmatizing were those that focused on children and include, for example, billboards with and commercials portraying obese youth with captions such as “Stocky, Chubby, and Chunky are Still Fat” and “Fat Kids Become Fat Adults.”³⁰ Apparently, some public health paternalists believe that guilt and shame can motivate people to lose weight.

Obese citizens also understand the adverse health consequences.³¹ Employers have incentives to push their employees to lose weight, and workers themselves understand they earn less income than their slimmer colleagues.³² Obese workers who receive employer-sponsored health insurance pay for their higher medical costs by receiving lower cash wages than non-obese workers.³³

It should come as no great surprise that interventions are ineffective when they simply repeat information we already know. Studies of mandatory calorie posting at restaurants indicate little evidence that they alter purchases.^{34,35} It is especially revealing that researchers found that mandatory calorie posting at Starbucks found that average calories per transaction fell by 6 percent, but the effect was almost entirely related to food choices.³⁶ Starbucks is well known for high-calorie coffee drinks loaded with cream, and apparently mandatory calorie disclosure did little to alter consumer taste for these specialties.

First Lady Michelle Obama's "war on childhood obesity" and recent congressional mandates under the federal school lunch and breakfast program now require public schools to follow new nutritional guidelines in order to qualify for extra federal lunch aid. Reports indicate that children toss many of the mandated fruits and vegetables in the trash.³⁷ Forcing children to take something that they don't want is apparently acceptable to paternalists, as is the waste of taxpayer funds.

New York City Mayor Michael Bloomberg's misguided proposal to ban sodas larger than 16 ounces is another symbolic gesture based on several paternalistic notions: 1) Citizens do not understand that consuming large quantities of soda may lead to weight gain. 2) Citizens lack sufficient willpower to resist super-sized sodas in the absence of the ban. 3) Citizens are unlikely to understand that they can purchase multiple 12-ounce sodas, purchase in bulk at warehouse stores, or buy large-sized beverages not subject to the ban (e.g., 7-Eleven "Big Gulp" drinks and products available in vending machine and supermarkets). People can just double up or buy non-banned drinks with more calories, such as milkshakes.

Unfortunately, when such interventions fail to achieve their stated purposes, public health paternalists tend to push for even stronger measures aimed at correcting what they view as repeated drinking and eating mistakes by citizens. Bans on pizzas larger than 12 inches in diameter, ice cream containers larger than one pint, or potato chip bags larger than 10 ounces might not be far behind. Perhaps school children will be required to eat their vegetables if they want to enjoy recess time, although this is likely to lead some to exercise less when they refuse their fruit and vegetable mandates. Failed policies generally reinforce the paternalist view that we need further expert guidance with more aggressive policies.

Conclusions

People already understand that weight gain results from eating too much and exercising too little. Attempts to replace individual responsibility and motivation with government "incentives" have failed to meet their overstated promises. More government-funded studies, more headlines, ever higher taxes, and more restrictive bans are likely to follow as programs fail. Public health will suffer as funds are wasted on programs that offer no real solution.

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