

YANKEE DOODLING **Douglas Kamerow**

# The case of the sugar sweetened beverage tax

A cautionary tale of political influence

We are fat, and we're getting fatter. Nearly a third of American children are overweight or obese. In our inner cities a prevalence of obesity of more than 50% among both children and adults is not uncommon. Too many calories in, too little energy out.

Changing behaviour is hard. Obesity has several causes, and it will take a multifaceted campaign to reverse the trend. The tobacco experience has taught us that education is not enough: regulation, litigation, and legislation are needed too. Increasing taxes on cigarettes has been the single most effective strategy in reducing smoking.

Which brings us to the sad story of the tax on sugar sweetened beverages (SSBs).

An important part of the obesity story is clearly the huge increase in consumption of SSBs: carbonated sodas, sweet teas, energy drinks, flavoured water, and sports drinks. Their use has more than doubled in recent years, and of all food types they are the single largest contributor to energy intake in the United States.

Especially perniciously, SSBs have essentially no effect on satiety, research shows—unlike candy or other junk food. Our bodies seem not to sense the empty calories we're swallowing and to count them towards feeling full. Gobble some jelly beans and you feel like you've had something to eat. Drink a cola drink: no such feeling. Add in the fact that the price of SSBs has actually fallen after adjustment for inflation and you have the makings of a big problem.

Experts have been agitating for a "penny per ounce" tax on SSBs for about two years. An excise tax imposed at the wholesale level has several advantages over a percentage sales tax collected at the cash register after the purchases have been totalled. Because it is imposed at the wholesale level, an excise tax is easier to implement. It is then passed on to the consumer in higher retail prices, allowing price

sensitivity to work its magic. Also, it produces the same tax on a discounted generic soda as on a brand name drink. Thus, rather than driving people to purchase cheaper products or larger serving sizes to get a better price, as a sales tax does, excise taxes can actually reduce consumption. What amounts to about a 10% tax will likely lead to an 8-10% reduction in consumption.

Just as with tobacco products, we especially want to discourage young people from buying and consuming SSBs, and the young are notoriously price sensitive. And poor people, who are disproportionately obese, are the most price sensitive in food shopping.

Simple sales taxes have been shown not to work. They don't change behaviour or weight. The best chance for success is to impose a penny per ounce SSB tax, resulting in a rise of a dollar or two in the price of a six pack of sodas or a 2 litre bottle. Pilot studies and some early research have found promising decreases in consumption and even positive health outcomes from such pricing strategies. Public opinion polls have found that most people are in favour of such taxes. It seems like a pretty good public health strategy.

Needless to say, SSB manufacturers and retailers did not think these taxes were a very good idea at all. This was a threat they would beat back at any cost.

The industry's response to proposed SSB taxes has been swift and massive. In cities and states where SSB taxes have been proposed, industry financed "grassroots" organisations sprang up out of nowhere. They had names like "New Yorkers against Unfair Taxes" and "NoDCBevTax.com." Their websites listed dozens of ordinary citizens and small mom-and-pop stores as members, masking the source of their funding: the major soft drink companies and retailers (see [www.nytimes.com/2010/07/03/nyregion/03sodatax.html](http://www.nytimes.com/2010/07/03/nyregion/03sodatax.html) and <http://voices.washingtonpost.com/>



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[dc/2010/05/council\\_all\\_but\\_kills\\_soda\\_tax.html](http://dc/2010/05/council_all_but_kills_soda_tax.html)).

In New York state, projections found that a penny per ounce tax on SSBs could prevent 145 000 cases of adult obesity and 37 000 cases of diabetes in a decade. It could save \$2bn (£1.3bn; €1.6bn) in healthcare costs. To fight the tax, SSB manufacturers paid \$90m to the same public relations firm that created the famed “Harry and Louise” advertisements against US health reform in the 1990s. Their signature TV spot showed a housewife urging viewers to “tell Albany [the state capital] to trim their budget fat and leave our groceries alone.” The governor withdrew his tax proposal.

Washington, DC, was another battleground: a liberal, black majority city with chronically underperforming schools and a large budget deficit. A city council member proposed a penny per ounce SSB tax to decrease obesity and fund better school food and exercise programmes. Immediately we heard insulting but effective radio advertisements with stereotyped African American voices saying that “soda’s ’bout to git waaay more expensive” because of unfair taxes. It wasn't even a close contest. The city council chairman never called for a vote on the proposal.

The story was the same around the US. In many cities and states proposals were withdrawn in the face of “public” protest and petitions. In others excise taxes were converted to ineffective sales taxes. Public health was outgunned and outspent. SSBs are still safe for all to buy and enjoy at record low prices.

As the mayor of Philadelphia said about the victory of the beverage lobby's campaign, “They're successful the old fashioned way. They pay for it.” Douglas Kamerow is chief scientist, RTI International, and associate editor, *BMJ* [dkamerow@rti.org](mailto:dkamerow@rti.org)

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## MEDICINE AND THE MEDIA

# Animal rights activists bury avalanche study

Why did a research study into the effects of hypothermia on avalanche survival hit central European headlines earlier this year and spark 35 000 protest emails? **Peter Paal and colleagues** report



On 14 January this year in Vent in the Austrian Tyrol we were forced to call off an approved avalanche burial study involving anaesthetised piglets on the fourth of the 10 planned days of the study. We had no choice but to shut down the study because of overwhelming negative and sensational media coverage, closely followed by massive criticism and protests from animal rights activists and a few politicians.<sup>1</sup> Local people involved in the project had withdrawn their support, fearing repercussions for tourism, the economic mainstay of the valley. Headlines in Austrian, German, and Italian news media were along the lines of “Pigs buried alive in snow,” suggesting that animal cruelty had occurred. More than 200 newspapers worldwide, and national as well as international television and radio stations, reported on the avalanche project.

Avalanche survival is only partly understood. About 70% of completely buried avalanche victims have a traumatic death or die from asphyxia,<sup>2,3</sup> and survival for more than 15-35 minutes is possible only in an air pocket.<sup>4</sup> The interaction between hypoxia (oxygen deficiency), hypercapnia (carbon dioxide excess), and hypothermia (core body temperature of less than 35°C) was first described in a human study,<sup>5</sup> but clarifying the effects of hypothermia on survival in an avalanche is possible only with animal testing. For instance, if deep hypothermia ensues quickly after burial in an avalanche, cardiac arrest may be survivable for longer than currently suspected, with the consequence that some buried people may have been declared dead on site too early.<sup>6</sup> Avalanche burial affects around 150 mostly young and healthy athletes a year in developed countries,<sup>4</sup> often in conditions of low atmospheric oxygen partial pressure corresponding to an altitude of 2000-2500 m. Thus to realistically emulate avalanche burial we set up the study site in the village of Vent, which is at an altitude 1900 m and where sufficient avalanche-like snow was available.

In a multipurpose building an operating theatre was set up where the piglets were anaesthetised but still spontaneously breathing. They were protected from the cold, and endotracheal tubes and systemic arterial and pulmonary arterial lines were inserted. The piglets were then taken to the avalanche burial site and, after baseline measurements were taken, were placed in an artificially created air pocket and buried to a depth of 1 m in snow. While they were buried, haemodynamic function, body core temperature, and blood gas measurements were taken. To analyse hypothermia induced myocardial dysfunction, heart biopsies took place after the animals had died.<sup>7</sup> Furthermore, a novel non-invasive temperature sensor to measure body core temperature was tested in the field.<sup>8</sup>

The study was approved by the Austrian Federal Ministry of Science and Research and was supervised on site by a ministry representative. However, the European Union directive 86/609/EC and respective Austrian laws regulating animal testing are hotly debated, and many animal activist groups are against any form of the directive.

Although animal rights activists represent a small minority in Austria, their opposition to our study was largely supported by sensationalist reporting in the media, and the issue became a topic of major public debate in a single day. Google Insights for Search ([www.google.com/insights/search/](http://www.google.com/insights/search/)), which enables comparison of search term volumes in different areas, showed that the German search terms for “animal testing” (Tierversuch) and “pigs” (Schweine) were more frequent on 14 and 15 January, the days our study became widely known. No similar surge in the use of the respective English terms was seen, indicating that the outrage was mainly an Austrian, German, and Swiss phenomenon; English language news reports mentioned that the pigs had been anaesthetised.

The study team, associated institutions, and

supporting local people received more than 35 000 protest emails, and there were several threats of violence and death, including one bomb threat. Consequently we had to suspend the study. In addition, the study team and the former Austrian minister of science, who is now the European commissioner for regional policy, were sued by animal rights activists for animal cruelty and murder. These complaints have since been dismissed by the state attorney.

If the media publish misinformation and the public subsequently becomes enraged, isn't this our own fault? Winning the “war” on animal testing, as stated by the former UK science minister Paul Drayson,<sup>10</sup> should be the scientist's duty. Thus initiatives to inform the public, such as the UK based Pro-Test group,<sup>11</sup> which campaigns in favour of animal testing, are essential. Unfortunately equivalents in continental Europe seem to be lacking.

What are the wider implications for biomedical research if sensational reporting, animal rights activists, and negative public opinion are able to block an approved and well conducted animal study? Research in many biomedical fields (such as oncology, pharmacology, surgery, and organ transplantation) may be hampered, because at some stage of development data are generated and validated in animal studies. If a small minority is able to halt animal studies, scientists may stop conducting research in some fields. Knowledge, scientific and clinical advances, jobs, and eventually human lives may be at risk. After our experience with this study we urge politicians, higher education institutions, and scientists to justify animal research to the public. At the moment, however, it is unclear whether our study will ever be concluded.

Peter Paal ([peter.paal@uki.at](mailto:peter.paal@uki.at)), Patrick Braun, Department of Anesthesiology and Critical Care Medicine, Innsbruck Medical University, Innsbruck, Austria; Hermann Brugger, Giacomo Strappazon, EURAC Institute of Mountain Emergency Medicine, Bolzano, Italy; Markus Falk, statistician, Inova Q, Bruneck, Italy

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