

# Is the Soda Tax Working? Scientific Studies Show Positive Changes

"When you implement a soda tax, two things happen immediately."

[Emma Betuel](#) [February 21, 2019](#)

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In 2014, Berkeley, California, added a 1-cent tax on every ounce of sweetened drinks sold within city limits, making it one of a handful of cities in America to implement the politically controversial “soda tax.” Three years later, there’s evidence that the soda tax drastically changed the way Berkeley residents hydrate. Essentially, the soda tax worked.

Based on the survey results from 1,513 Berkeley residents between 2014 and 2017, [Kristine Madsen, Ph.D.](#), the faculty director of UC Berkeley’s Food Institute, found that sugary drink consumption in Berkeley has decreased by *52 percent* since the soda tax was implemented. Consumption habits in nearby cities without the same long-standing soda tax remained the same.

The new research was published in a [paper](#) Thursday in *The American Journal of Public Health*. The work builds on a [2016 study](#) that showed a [21-percent decrease](#) in drinking soda (and other sugary beverages) in Berkeley’s low-income neighborhoods after the tax was approved by voters.

“When you think about public health advertisements, it’s kind of countering messages that go out from the industry,” Madsen tells *Inverse*. “It tells people that too much soda is bad for you, and that can have some effects.”

The health effects of sugary drinks, from [diabetes](#) to obesity, are well-documented.

At the federal level, taxing the sale of “[junk food](#)” hasn’t gained any traction, but Berkeley and Philadelphia have taken it upon themselves to tax drink distributors, raising soda prices overall. The concept of a [sugar drink tax](#) has taken hold in other countries, too.



*Berkeley's 2014 soda tax caused massive drops in sugary beverage consumption over three years.*

## **Two Ways the Soda Tax Changed Drinking Habits in Berkeley**

The soda tax is about more than just imposing economic obstacles to buying sugary drinks, says Madsen. The first that happens is that it seems to cause a shift in attitude about the health effects of those beverages.

"Once the tax passes, it's pretty good evidence that your community has decided that drinking a lot of soda isn't a great thing."

"When you implement a soda tax, there is a bunch of media around it, so people start to think, 'Maybe soda isn't too good.'"

The second thing that happens is that the public stops buying soda.

"Then, once the tax passes, it's pretty good evidence that your community has decided that drinking a lot of soda isn't a great thing."

Before 2014, residents in Berkeley reported cracking open a sugary drink more than once per day (an average of 1.25 times across survey participants). But after 2014, residents reported drinking sugary beverages less than once per day — an average of 0.5 times per day across participants.

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or county-level taxes on sugary drinks.

This measurable change in drinking habits is crucial, especially because a line of criticism of the soda tax is that it may impact *sales* of drinks — which would not necessarily change how many sugary beverages people actually consume. But the study shows that whether or not people *bought* less soda, they definitely *drank* less soda.

Madsen also compared the soda consumption habits in Berkeley to demographically similar neighborhoods in Oakland and San Francisco, which both levied soda taxes later than Berkeley did. Oakland's soda tax went into effect in 2017, and San Francisco levied its own soda taxes in 2018, so the bulk of these surveys were taken *before* the soda taxes went into effect in both cities (though in Oakland some surveys were conducted one to three months after their soda tax went into effect).

Overall, there was no significant change in sugary drink consumption in Oakland or San Francisco over that time — showing that the soda tax did have measurable effects in Berkeley.

## **Will The US Ever Pass a Soda Tax?**

A soda tax would be implemented to shift how the public views the health effects of sugary drinks. But implementing such a tax on a large scale would not be easy. One major obstacle is that Americans are particularly sensitive to the idea: “The appetite for them isn’t there,” she says.

"The overreach of industry is really scary."

Beverage companies may also play a role in this perception, as they have done their best to influence public policy in their favor. As *Inverse* previously reported, public health researchers at Harvard have documented how the Coca-Cola Company has [shaped China's public health agenda](#). And in June 2018, a new California law banned city-level food and beverage taxes on sugar beverages for the next 13 years, a move that the [San Francisco Chronicle](#)

reported was due to efforts of the American Beverage Association, Coca-Cola, and Pepsi.

Look at 42 grams of Sugar in One can of Coca-Cola

“The overreach of industry is really scary,” Madsen says. “I just want to make sure that people understand what is happening.”

There are ways to control sugary beverage consumption that work *in tandem* with a beverage tax. For instance, when the US took aim at tobacco companies, they considered taxes *as well as* other measures, like warning labels and advertising restrictions.

“Just imagine you’re walking by a corner store and you see an ad for soda, and you see in the corner a table that says, ‘Warning: Drinking too much soda can cause diabetes, obesity, and tooth decay,’” she says. “Another one of the things is front-of-package labeling that says, ‘This has a lot of sugar. This has



a lot of salt’.”

On Wednesday, the day before Madsen’s study was released, California state lawmakers [proposed a bill](#) that would add warning labels to soft drinks, impose a state-wide soda tax, and put restrictions on “Big Gulp”-style drinks.

Madsen’s work couldn’t have come at a better time. Within the next few months, Californians will get another chance to decide how they feel about the soda tax.

### **Abstract:**

*Objectives.* To estimate changes in sugar-sweetened beverage (SSB) and water consumption 3 years after an SSB tax in Berkeley, California, relative to unexposed comparison neighborhoods.

*Methods.* Data came from repeated annual cross-sectional beverage frequency questionnaires from 2014 to 2017 in demographically diverse Berkeley (n = 1513) and comparison (San Francisco and Oakland; n = 3712) neighborhoods. Pretax consumption (2014) was compared with a weighted average of 3 years of posttax consumption.

*Results.* At baseline, SSBs were consumed 1.25 times per day (95% confidence interval [CI] = 1.00, 1.50) in Berkeley and 1.27 times per day (95% CI = 1.13, 1.42) in comparison city neighborhoods. When we adjusted for covariates, consumption in Berkeley declined by 0.55 times per day (95% CI = -0.75, -0.35) for SSBs and increased by 1.02 times per day (95% CI = 0.54, 1.50) for water. Changes in consumption in Berkeley were significantly different from those in the comparison group, which saw no significant changes.

*Conclusions.* Reductions in SSB consumption were sustained in demographically diverse Berkeley neighborhoods over the first 3 years of an SSB tax, relative to comparison cities. These persistent, longer-term

reductions in SSB consumption suggest that SSB taxes are an effective policy option for jurisdictions focused on improving public health.

***Correction 2/22/19:*** An earlier version of this story incorrectly described the tax as being applied to artificially sweetened drinks.