

## Soda taxes: a 1% higher tax on soda than on other food items

### Public Health & Prevention: Population-level policies

Literature review updated November 2015.

As part of WSIPP's research approach to identifying evidence-based programs and policies, WSIPP determines "what works" (and what does not work) to improve outcomes using an approach called meta-analysis. For detail on our methods, see our [Technical Documentation](#). At this time, WSIPP has not yet calculated benefits and costs for this topic.

Program Description: Our review included two rigorous studies that investigated the relationship between a) taxes on soda that are greater than taxes on other food items, and b) obesity. One study examined the impact of soda taxes on children ages 3-18 and the other study examined the impact of soda taxes on adults at least 18 years of age. The effects presented here reflect a 1% increase in soda taxes beyond typical food tax rates.

#### Meta-Analysis of Program Effects

Outcomes measured	No. of effect sizes	Treatment N	Adjusted effect size and standard error			Unadjusted effect size (random effects model)	
			ES	SE	Age	ES	p-value
Obesity	2	1365734	0.000	0.001	45	0.000	0.857

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our [Technical Documentation](#).

## Citations Used in the Meta-Analysis

Fletcher, J., Frisvold, D., & Tefft, N. (2009). *The Effects of Soft Drink Taxes on Child and Adolescent Consumption and Weight Outcomes*, working paper.

Fletcher, J.M., Frisvold, D., & Tefft, N. (2010). Can soft drink taxes reduce population weight? *Contemporary Economic Policy*, 28(1), 23-35.

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