CHOICES NATIONAL ACTION KIT:

Sugary Drink Excise Tax Strategy Report

CHOICES uses cost-effectiveness analysis to compare the costs and outcomes of different policies and programs promoting improved nutrition or increased physical activity in schools, early care and education and out-of-school settings, communities, and clinics. This strategy report describes the projected national population reach, impact on health and health equity, implementation costs, and cost-effectiveness for an effective strategy to improve child health. This information can help inform decision-making around promoting healthy weight. To explore and compare additional strategies, visit the CHOICES National Action Kit at www.choicesproject.org/actionkit.

TABLE OF CONTENTS

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Contact the CHOICES Project: choicesproject@hsph.harvard.edu

STRATEGY PROFILE

Describes the estimated benefits, activities, resources, and leadership needed to implement a strategy to improve child health. This information can be useful for planning and prioritization purposes.

A sugary drink excise tax is an excise tax assessed on manufacturers, bottlers, and/or distributors of sugary drinks based on the size of the sugary beverage distributed to consumers. This profile is specific to a sugary drink excise tax of 1 cent per ounce implemented statewide in each state in the United States.

WHAT POPULATION BENEFITS?

All youth and adults ages 2 years and older.

WHAT ARE THE ESTIMATED BENEFITS?

Relative to not implementing the strategy

Reduce sugary drink purchases and consumption, and, as a result, promote healthy weight.

✓ **Decrease in sugary drink consumption**

✓ **Prevent cases of obesity**

✓ **Projected to be cost-saving**

✓ **Likely to improve health equity by race, ethnicity, and income**

More details available on the CHOICES National Action Kit at choicesproject.org/actionkit

WHAT ARE THE ADDITIONAL BENEFITS?

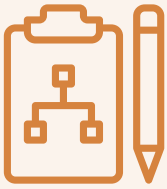
Relative to not implementing the strategy

↓ Decrease in tooth decay
↓ Decrease in diabetes incidence
↓ Decrease in household spending on sugary drinks
The costs of implementing this strategy could be offset by savings from...
↓ Decrease in dental costs

Continued on the next page

WHAT ACTIVITIES AND RESOURCES ARE NEEDED?

Activities	Resources	Who Leads?
Administer the excise tax	• Time for government tax agent to administer tax, including notifying taxpayers, updating systems and forms, processing tax statements, and conducting audits	Government tax agency and staff
Prepare tax statements and comply with audits	• Time for private industry accountant to prepare tax submissions and comply with audits	Private industry accountant



Strategy Modification

Some state and local health agencies enhanced this strategy by adding the costs of developing and implementing communications campaigns to further promote the tax among distributors and the public. This would require additional time to develop and distribute communication materials and the additional cost of materials.

- See our resource library for relevant peer-reviewed publications, research reports, & briefs at choicesproject.org/resource-library
- Learn more about strategy modifications and CHOICES projections of the strategy Sugary Drink Excise Tax for several US states and local areas:

  California
  Hawaii
  Minnesota
  New York
  New York City
  Alaska
  Utah
  Denver
  New Hampshire
  Washington
  West Virginia

- Learn more about the evidence for the strategy Sugary Drink Excise Tax in the CHOICES peer-reviewed publications:

  Gortmaker et al. 2015 *Health Affairs*
  Long et al. 2019 *J Nutr Educ Behav*
  Lee et al. 2023 *Am J Prev Med*

- For more information about sugary drink reduction policies, see:

  Krieger J, Bleich S, Scarmo S, Wen Ng S. Sugar-Sweetened Beverage Reduction Policies: Progress and Promise. *Ann Rev Public Health*. 2021;42(1):439-461. doi:10.1146/annurev-publhealth-090419-103005

Adapted from CHOICES Strategy Profile: Sugary Drink Excise Tax. CHOICES Project Team at the Harvard T.H. Chan School of Public Health, Boston, MA; April 2022.

NATIONAL RESULTS

Projected national population reach, impact on health behaviors and prevention of excess weight gain, implementation costs, and cost-effectiveness of the strategy. These national results may help inform your organization's decision-making around promoting healthy weight.

DESCRIPTION	Excise tax assessed on manufacturers, bottlers, and/or distributors on sugary drinks based on size of the sugary beverage distributed to consumers

OUTCOME	**Mean** (95% UI)*
BEHAVIOR CHANGE PER PERSON *Change in health behavior per person in the first year*	**69 fewer sugary drinks** (40; 144) *12-oz servings, in the first year*
COST PER PERSON *Average annualized cost per person to implement the strategy over the model period*	**$0.15** ($0.11; $0.19) See Cost Results
POPULATION REACH *Reach over the model period*	**352,000,000** (351,000,000; 354,000,000)
OBESITY PREVENTED *Cases of obesity prevented in the final year*	**2,070,000** (923,000; 4,860,000)
CHILD OBESITY PREVENTED *Cases of child obesity prevented in the final year*	**332,000** (129,000; 726,000)
HEALTH EQUITY IMPACT *Impact on obesity-related health equity in the final year*	***Likely to improve health equity by race, ethnicity, & income*** See Health Equity Indicators
QUALITY-ADJUSTED LIFE YEARS (QALYS) GAINED *Quality-adjusted life years (QALYs) gained (totals over the model period)*	**933,000** (411,000; 2,200,000)
OBESITY YEARS PREVENTED *Years with obesity prevented (totals over the model period)*	**15,800,000** (6,970,000; 37,500,000)
HEALTH CARE COSTS SAVED PER $1 INVESTED *Total health care costs saved per total intervention costs over the model period*	**$48.50** ($18.80; $114.00) *Cost-saving*
COST PER QALY GAINED *Net cost per quality-adjusted life year (QALY) gained (totals over the model period)*	***Cost-saving*** >99% likelihood

Projections for the model period 2022-2031 (10 years, inclusive of the start and end years).
Costs are in 2019 dollars and discounted at 3% annually.
*Results displayed are the mean and 95% uncertainty interval (UI). CHOICES calculates 95% uncertainty intervals by running the model 1,000 times and reporting the range (95% of estimates, centered on the mean) of projected outcomes that account for uncertainty from data sources and population projections.

- ✓ Explore our User Guide for more information about the CHOICES National Action Kit at choicesproject.org/action-kit-user-guide
- ✓ Learn more about CHOICES Methods at choicesproject.org/methods
- ✓ Find definitions of each modeled outcome in the Glossary (p.13) at choicesproject.org/action-kit-glossary

COST RESULTS

Describes the estimated costs by activity and payer needed to implement a strategy to improve child health nationally. This information can be useful for planning and prioritization purposes.

This report includes estimates of the implementation costs of a sugary drink tax if implemented in each state in the United States. Costs are estimated from a societal perspective, meaning costs needed to implement the tax are included regardless of who pays or whether the costs are budgetary or opportunity costs.

Costs and cost savings not included in these results:

- ***Revenue***. States are expected to generate revenue from the tax[1] that could be used to cover implementation costs and other activities.
- ***Employment costs***. In U.S. cities with sugary drink taxes in place, there is no evidence that the tax has negatively impacted employment.[2,3]
- ***Household spending on sugary drinks***. Individuals and households who consume sugary drinks are expected to spend less on sugary drinks with a tax in place,[4] since an increase in the price of sugary drinks is expected to reduce purchasing of these beverages.[5]

  Cost savings are expected to begin accruing as soon as a tax is implemented.

Average Annual Strategy Implementation Cost by Activity and Payer*

Activity	Resources	Cost per Person†	Payer	Percent of Total Cost
Prepare tax statements and comply with audits	Time for private industry accountant to prepare tax submissions and comply with audits	$0.08	Industry	55%
Administer the excise tax	Time for government tax agent to administer tax, including notifying taxpayers, updating systems and forms, processing tax statements, and conducting audits	$0.07	State government	45%
TOTAL	--	**$0.15**	--	**100%**

Costs are in 2019 dollars and discounted at 3% per year. Sums of estimates in columns may not equal Total due to rounding.
*States will generate revenue from the tax that can be used to cover implementation and other costs.
†Average annualized cost per person to implement the strategy over the model period 2022-2031 (10 years).

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Average Annual Strategy Implementation Cost by Payer and Cost Type*			
	Cost per Person†		
Payer	**All Costs (% of Total)**	**Budgetary Costs (% of All Costs by Payer)**	**Opportunity Costs (% of All Costs by Payer)**
Federal government	--	--	--
State government	$0.07 (45%)	$0.02 (29%)	$0.05 (71%)
Local government	--	--	--
School district	--	--	--
School	--	--	--
Family/Individual	--	--	--
Industry	$0.08 (55%)	$0.01 (10%)	$0.07 (90%)
Nonprofit	--	--	--
Health care	--	--	--
TOTAL	**$0.15 (100%)**	**$0.03 (19%)**	**$0.12 (81%)**

Costs are in 2019 dollars and discounted at 3% per year. Sums of estimates in columns may not equal Total due to rounding.
*States will generate revenue from the tax that can be used to cover implementation and other costs.
†Average annualized cost per person to implement the strategy over the model period 2022-2031 (10 years).

→ To compare the costs and impacts of strategies, use the CHOICES National Action Kit comparison builder. The strategy implementation cost tables included in this report may provide information useful for planning purposes.

DEFINITIONS

All costs include budgetary and opportunity costs.

Budgetary costs refer to the actual financial costs incurred.

Opportunity costs refer to the value of what you have to give up in order to choose something else. For example, if an annual professional development training for bullying prevention is replaced with a training for active physical education, there is no budgetary impact, but costs for teachers to attend the training are considered an opportunity cost. The opportunity cost of their time is included in a cost analysis from a societal perspective.

HEALTH EQUITY INDICATORS

Describes the projected impact of implementing a strategy nationally on health equity by race, ethnicity, and income.

Every person deserves access to healthy foods and drinks and opportunities to be physically active, which can help them grow up and live at a healthy weight. However, obesity levels vary by race, ethnicity, and income. Nationally, current and future projected obesity levels are highest among Black or African American and Hispanic or Latino race/ethnicity groups and populations with low household incomes.[6] These disparities are driven by many forces, including commercial determinants leading to increased intake of highly processed and marketed foods and drinks, as well as structural racism and social and economic determinants of health.[7-9] Effective policy and programmatic strategies promoting improved nutrition and increased physical activity can reduce health disparities and improve health equity.

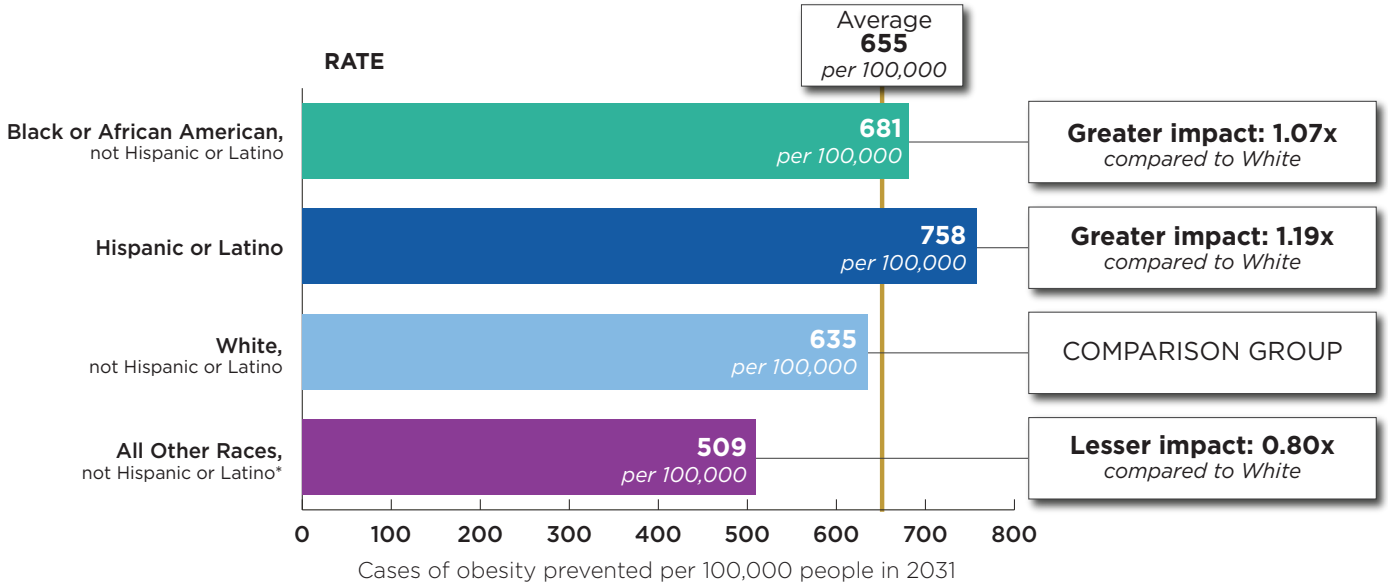
KEY TAKEAWAYS

If implemented over 10 years (2022-2031), this strategy is projected to:

- ✓ **Prevent 2,070,000 cases of obesity in 2031**
- ✓ **Prevent cases of obesity in all race, ethnicity, and income groups**
- ✓ **Improve health equity by race, ethnicity, and income**

Learn more about CHOICES methods for projecting health equity impacts at choicesproject.org/methods/healthequity

Comparative projected impact of the strategy by race and ethnicity



*All Other Races includes people who identify as American Indian/Alaska Native, Asian, Native Hawaiian or Pacific Islander, Multi-racial, or another race or ethnicity not represented in the categories shown. While each of these groups represent distinct populations with differences in health opportunities, risk, and outcomes, they are summarized together due to limited data in national- and state-level surveillance systems.

The Black or African American and Hispanic or Latino populations are projected to experience preventive benefits that are 1.07 and 1.19 times greater compared to the White population. *The comparative impact in each population group compared to the population average is provided in a table on page 9.*

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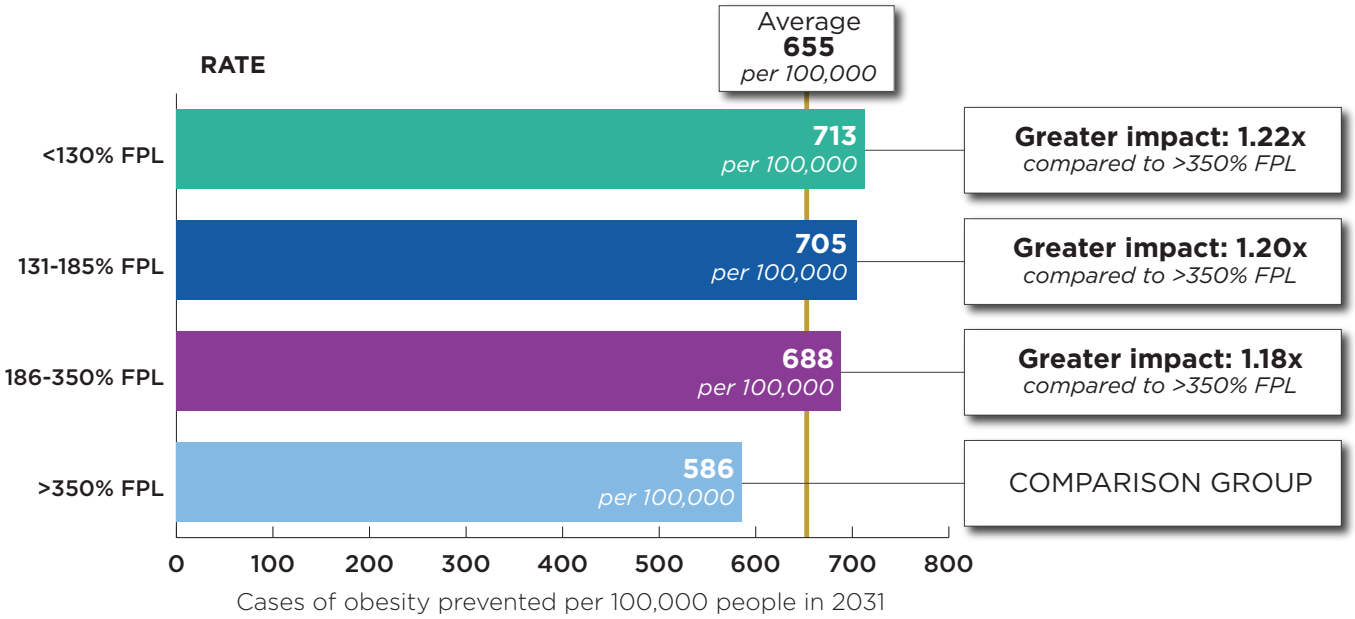
Comparative projected impact of the strategy by household income *as a percentage of the federal poverty level (FPL)*



Populations with lower household incomes (350% FPL or less) are projected to experience preventive benefits that are 1.18-1.22 times greater compared to populations with the highest income (>350% FPL). *The comparative impact in each population group compared to the population average is provided in a table on page 9.*

How is this strategy expected to impact health equity?

Every person deserves opportunities to grow up and live at a healthy weight. Sugary drink intake can lead to increased risk of obesity[10] and other health complications, such as diabetes, cardiovascular disease, cancer, increased risk of death,[11-13] and dental decay.[14] Beverage companies disproportionately market sugary drinks to Black and Hispanic/Latino consumers,[15] and Black and Hispanic/Latino people and people from households with lower incomes have higher intake of sugary drinks compared to other population groups.[16] A sugary drink excise tax is an excise tax assessed on manufacturers, bottlers, and/or distributors of sugary drinks based on the size of the sugary beverage distributed to consumers. Sugary drink taxes have been effective at reducing sales and consumption of sugary drinks in several cities in the US.[17-20] Individuals and households who typically purchase sugary drinks respond to an increase in the price of sugary drinks by buying fewer of these beverages, and they are expected to spend less on these products. Black and Hispanic/Latino people and households with lower incomes are expected to benefit the most from sugary drink taxes: they will consume fewer sugary drinks, spend less on them, and experience improved health outcomes.[4,21] Additionally, US cities with taxes have invested tax revenues in programs benefiting communities with lower incomes,[22] increasing the potential benefits of a tax for these communities. Sugary drink intake varies across states,[23,24] so improvements in health equity due to a tax are projected to be larger in some states compared to national projections.[4,25-27]

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Projected impact of the strategy by race, ethnicity and income, mean (95% UI)[a]

	OBESITY PREVENTED	OBESITY PREVENTED PER 100,000	COMPARATIVE IMPACT[b]	
	Cases of obesity prevented in the final year	*Cases of obesity prevented per 100,000 people in the final year*	*Ratio of obesity prevented per 100,000*	
Race and Ethnicity			***Compared with White, not Hispanic or Latino***	***Compared with Population Average***
Overall	**2,070,000** (923,000; 4,860,000)	**655** (293; 1,540)	--	**1.00 (Reference)** N/A
Black or African American, not Hispanic or Latino	**272,000** (119,000; 626,000)	**681** (298; 1,580)	**1.07** (0.90; 1.30) *79% likelihood of greater impact*	**1.04** (0.91; 1.18) *74% likelihood of greater impact*
Hispanic or Latino	**489,000** (224,000; 1,160,000)	**758** (346; 1,800)	**1.19** (1.01; 1.45) *98% likelihood of greater impact*	**1.16** (1.03; 1.30) *99% likelihood of greater impact*
White, not Hispanic or Latino	**1,160,000** (516,000; 2,770,000)	**635** (282; 1,510)	**1.00 (Reference)** N/A	**0.97** (0.89; 1.03) *82% likelihood of lesser impact*
All Other Races, not Hispanic or Latino[c]	**143,000** (64,300; 327,000)	**509** (229; 1,170)	**0.80** (0.67; 0.97) *99% likelihood of lesser impact*	**0.78** (0.68; 0.89) *>99% likelihood of lesser impact*
Household Income *as a percentage of the federal poverty level (FPL)*			***Compared with >350% FPL***	***Compared with Population Average***
Overall	**2,070,000** (923,000; 4,860,000)	**655** (293; 1,540)	--	**1.00 (Reference)** N/A
<130% FPL	**537,000** (252,000; 1,240,000)	**713** (334; 1,660)	**1.22** (1.07; 1.43) *>99% likelihood of greater impact*	**1.09** (1.00; 1.20) *98% likelihood of greater impact*
131-185% FPL	**231,000** (102,000; 545,000)	**705** (312; 1,660)	**1.20** (1.08; 1.38) *>99% likelihood of greater impact*	**1.08** (1.00; 1.16) *97% likelihood of greater impact*
186-350% FPL	**560,000** (248,000; 1,310,000)	**688** (306; 1,630)	**1.18** (1.10; 1.26) *>99% likelihood of greater impact*	**1.05** (1.01; 1.09) *99% likelihood of greater impact*
>350% FPL	**738,000** (331,000; 1,720,000)	**586** (263; 1,370)	**1.00 (Reference)** N/A	**0.89** (0.83; 0.95) *>99% likelihood of lesser impact*

Projections for the model period 2022-2031 (10 years, inclusive of the start and end years).

[a]Results displayed are the mean and 95% uncertainty interval (UI). CHOICES calculates 95% uncertainty intervals by running the model 1,000 times and reporting the range (95% of estimates, centered on the mean) of projected outcomes that account for uncertainty from data sources and population projections.

[b]Ratio that compares cases of obesity prevented per 100,000 in each population group with the reference group. When the value is greater than 1.0 for a population group, we project a greater health benefit for that group compared with the reference group. When the value is less than 1.0, we project a lesser health benefit. Note: Ratios are sensitive to extremely high and low rates, so they should be interpreted in the context of the absolute rates, represented by Obesity Prevented per 100,000 here. Results may differ if estimating absolute rates and relative impacts among children only. Likelihood of greater or lesser impact compared with the reference group is estimated based on running the model 1,000 times.

[c]All Other Races includes people who identify as American Indian/Alaska Native, Native Hawaiian or Pacific Islander, Multi-racial, or another race or ethnicity not represented in the categories shown. While each of these groups represent distinct populations with differences in health opportunities, risks, and outcomes, they are summarized together due to limited data in national- and state-level surveillance systems.

STRATEGY DETAILS & MODELING METHODS

Describes the reach, effect, and cost assumptions used to make national projections for the strategy, and provides links to additional resources related to the strategy.

STRATEGY

The CHOICES model for implementation of a sugary drink excise tax* of 1-cent per ounce of sugary drinks assumes a tax would be administered at the state level and implemented in each state in the United States.[28] Sugary drinks include all beverages with added caloric sweeteners.The modeled excise tax does not apply to 100% juice, milk products, or artificially sweetened beverages.

For more information on implementation resources, learn more about the sugary drink excise tax currently in Philadelphia and the specifics of how it works[29] as well as how the sugary drink excise tax currently in Seattle[30] works. In addition, see places in the United States where the CHOICES team has worked with local partners to model a sugary drink excise tax.[31]

**The CHOICES Project refers to this strategy as a "sugary drink excise tax." This strategy has also been referred to as a "sugar-sweetened beverage excise tax."[28] These terms are considered synonymous.*

REACH

The strategy applies to all youth and adults. However, the model only looks at the effects on those 2 years of age and older (BMI z-scores were used in our analyses, which are not defined for children under 2 years of age).[32] The strategy would have a 10-year reach of 352 million people.

EFFECT

This excise tax would impact health by reducing population sugary drink purchases and consumption. Based on a systematic review of research evaluating how consumers respond to changes in sugary drink prices, we estimated that a 16.3% price increase from the tax would result in a 20% decrease in consumption.

When children and adults reduce sugary drink consumption, they prevent excess weight gain. Among adults, four longitudinal studies found that each serving of sugary drinks reduced per day led to a reduced BMI change of 0.21-0.57 BMI units.[33-36] A randomized controlled trial in youth found that a daily 8-ounce serving of sugary drinks compared to artificially sweetened beverages led to a 1.01 kg excess weight gain.[37] Multiple studies have also found that children and adults with higher BMI experience greater reductions in weight or BMI following reductions in sugary drink intake.[38-40] Based on the estimated 20% reduction in purchases, we estimated that the excise tax would result in an average of 69 fewer sugary drinks consumed per person reduction. Based on the relationship between sugary drink consumption and weight gain, 15.8 million years with obesity would be prevented over 10 years. In 2031, 2,070,000 cases of obesity, including 332,000 cases of childhood obesity, would be prevented by the tax.

COST

We estimated the cost to implement the strategy based on data from Washington state and West Virginia that had either existing or planned sugary drink excise taxes.[28] The states required between 0.10 and 0.54 full-time equivalent (FTE) government tax agent time per year per million residents to administer the tax and between 0.24 and 0.35 FTE per year per million residents to conduct audits.[32]

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The model assumed that industry would require equivalent time to comply with audits and file new tax statements and applied salary costs from the 2019 Bureau of Labor statistics for accountants and auditors. The model also assumed that the time to administer and conduct audits would be twice the annual rate during the first year of implementation.[32]

Additional limited costs estimated included field audit direct costs and limited tax certification system operating costs.

A sugary drink excise tax would incur an average annual cost of $0.15 per person.

Note: States are expected to generate revenue from the tax that could be used to cover implementation costs and other activities. Revenue estimates are not included in the modeled costs.

CHOICES METHODS

CHOICES uses cost-effectiveness analysis to compare the costs and outcomes of different policies and programs promoting improved nutrition or increased physical activity in schools, early care and education and out-of-school settings, communities, and clinics. Our methods include:

- **Key partner consultation:** Working with key partners & researchers to identify the most promising programs & policies for evaluation
- **U.S. population model:** Building a computer model of the U.S. population & projecting Body Mass Index (BMI) changes & health outcomes over time
- **Systematic reviews & meta-analyses:** Synthesizing scientific literature to estimate the likely effects of promising obesity prevention interventions on BMI & physical activity
- **Cost-effectiveness analysis:** Integrating information on the economic costs & health effects of interventions, utilizing a structured & transparent process
- **Health equity lens:** Projecting the impact of effective intervention strategies on population health and health equity

Learn more about CHOICES methods at choicesproject.org/methods.

WHY DOES CHOICES USE BMI AS A POPULATION HEALTH INDICATOR?

CHOICES focuses on programs and policies that can help reverse the societal and environmental conditions that drive increases in excess body weight and that emphasize healthy eating, improved physical activity, and reduced screen viewing. Excess body weight is associated with reduced quality of life and increased risk for chronic diseases like diabetes, heart disease, and cancers,[41] greater healthcare expenditures,[42] and increased mortality risk.[43] Obesity is a category of excess weight defined by body mass index (BMI), which is calculated as the ratio of a person's weight (kg) to their height squared (m^2).[44] Obesity is a chronic health condition recognized by the National Institutes of Health, the American Medical Association, Medicare, and Medicaid.

BMI is a useful population health indicator, although it does have limitations. BMI has been shown to be a good measure of individual-level adiposity, correlating highly (r=0.8) with gold standard measures of percent body fat, among adults, children and adolescents and for different gender and racial and ethnic groups.[45,46] BMI is relatively simple to collect and easy to calculate, and it is used widely in medical and scientific research to measure population health.

However, weight stigma occurs when people are blamed for their weight. Weight stigma can increase a person's risk of engaging in unhealthy eating behaviors and low levels of physical activity and can reduce both the quality of health care a person receives and their utilization of care, all undermining public health.[47] CHOICES evaluates the cost-effectiveness of policies and programs aimed at improving nutrition and physical activity environments, promoting related health behaviors, and promoting a healthy weight across all population groups and BMI levels.

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For Additional Information

Contact the CHOICES team at choicesproject@hsph.harvard.edu for additional information about model assumptions.

Gortmaker SL, Wang YC, Long MW, Giles CM, Ward ZJ, Barrett JL, Kenney EL, Sonneville KR, Afzal AS, Resch SC, Cradock AL. Three interventions that reduce childhood obesity are projected to save more than they cost to implement. Health Aff (Millwood). 2015 Nov;34(11):1932-9. doi: 10.1377/hlthaff.2015.0631.

Supplemental Appendix with strategy details available at: https://www.healthaffairs.org/doi/suppl/10.1377/hlthaff.2015.0631/suppl_file/2015-0631_gortmaker_appendix.pdf

Access the UConn Rudd Center Revenue Calculator for Sugary Drink Taxes at uconnruddcenter.org/tax-calculator

For more information about this strategy, see:

Krieger J, Bleich S, Scarmo S, Wen Ng S. Sugar-Sweetened Beverage Reduction Policies: Progress and Promise. *Ann Rev Public Health*. 2021;42(1):439-461. doi:10.1146/annurev-publhealth-090419-103005

CHOICES NATIONAL ACTION KIT: MODELED OUTCOMES GLOSSARY

Provides definitions for each modeled output displayed in the National Results table.

Modeled Output	Definition
BEHAVIOR CHANGE PER PERSON* *Change in health behavior per person in the first year*	The change in health behavior a person is projected to have after a strategy is put in place. Health behavior changes may include decreases in sugary drink intake, increases in physical activity, decreases in time spent watching TV, or increases in water intake. Behavior change per person is reported when the strategy aims to improve a specific health behavior and data are available to project how much a behavior would improve. *Averaged across people who actually receive the strategy.*
COST PER PERSON *Average annualized cost per person to implement the strategy over the model period*	The average annualized cost to implement the strategy over the model period (e.g., 10 years) per person reached over the model period. This includes cost by all payers (government, private sector, non-profit, individual/family). See the Cost Results for a breakdown of implementation costs by activity and payer. *Averaged across people in the intended population of focus where the strategy is adopted (that is, people who are eligible based on age, income, geographic area, and/or participation in the setting or program of focus, and who could potentially receive the strategy based on estimated adoption rates).*
POPULATION REACH* *Reach over the model period*	The number of people reached by the strategy over the model period. *Includes all people in the intended population of focus where the strategy is adopted (that is, people who are eligible based on age, income, geographic area, and/or participation in the setting or program of focus, and who could potentially receive the strategy based on estimated adoption rates).*
OBESITY PREVENTED* *Cases of obesity prevented in the final year*	In the final year of the model, the difference in the projected number of people with obesity if the strategy were not put in place and the projected number of people with obesity if the strategy were put in place.
CHILD OBESITY PREVENTED* *Cases of child obesity prevented in the final year*	In the final year of the model, the difference in the projected number of children with obesity if the strategy were not put in place and the projected number of children with obesity if the strategy were put in place.
HEALTH EQUITY IMPACT* *Impact on obesity-related health equity in the final year*	The projected impact on differences in obesity levels between population groups defined by race, ethnicity, and by income. Learn more about our methods for projecting health equity impacts.
QUALITY-ADJUSTED LIFE YEARS (QALYS) GAINED *Quality-adjusted life years (QALYs) gained (totals over the model period)*	The difference in total number of quality-adjusted life years (QALYs) in the population over the model period if the strategy were not put in place compared with if the strategy were put in place. A QALY is a measure of both the quantity and quality of life. CHOICES estimates the QALYs gained as a measure of how much implementing a strategy to prevent future excess weight gain could improve the quantity and quality of life for a population. See our User Guide for more information about QALYs.
OBESITY YEARS PREVENTED *Years with obesity prevented (totals over the model period)*	The difference in total number of person-years lived without obesity if the strategy were not put in place compared with if the strategy were put in place. This measure sums up portions of years lived without obesity across all the persons in the model, comparing the result if the strategy were put in place or not.
HEALTH CARE COSTS SAVED PER $1 INVESTED *Total health care costs saved per total intervention costs over the model period*	The amount avoided in health care cost related to excess weight for every dollar spent to implement the strategy over the model period. See the Cost Results for a breakdown of implementation costs by activity and payer.
COST PER QALY GAINED *Net cost per quality-adjusted life year (QALY) gained (totals over the model period)*	The total cost impact to improve population health in terms of quality-adjusted life years gained. Cost per QALY gained is a measure of cost-effectiveness. It includes costs to implement a strategy, cost savings due to efficiencies when implementing a strategy, and health care cost savings related to reductions in excess weight after a strategy is implemented. See our User Guide for more information about QALYs and cost per QALY gained.

All metrics reported for the population over the model period and discounted at 3% per year, unless otherwise noted. Definitions for these modeled outputs are all written assuming that an intervention is implemented.
* Not discounted.

REFERENCES

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