HAWAII: Sugary Drink Fee

CHOICES
Learning Collaborative Partnership

Executive Summary

Continually rising rates of obesity represent one of the greatest public health threats facing the United States. Obesity has been linked to excess consumption of sugary drinks. Federal, state, and local governments have considered implementing taxes on sugary drinks to reduce consumption, reduce obesity, and provide a new source of government revenue.[1-3] A fee on sugary drinks is a similar strategy to increase the price of sugary drinks, improve health, and provide revenue.

We modeled implementation of a state fee on sugary drinks at fees of $0.03/ounce, $0.02/ounce, and $0.01/ounce. This report summarizes the results of the $0.01/ounce fee. Results for additional fee rates can be found in Appendices 1 and 2.

The $0.01/ounce fee is projected to be cost-saving and result in lower levels of sugary drink consumption, thousands of cases of obesity prevented, and tens of millions of dollars in health care cost savings. The fee is projected to save $3.05 in health care costs per dollar invested.

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Background

Although consumption of sugary drinks (defined as all drinks with added caloric sweeteners) has declined in recent years, adolescents and young adults in the United States consume more sugar than the Dietary Guidelines for Americans 2020-2025 recommend, with persistent racial/ethnic disparities.[4-6] According to recent estimates, 56% of adults and 63% of youth in Hawaii report drinking soda.[7-8] The percentage of adults in Hawaii who report drinking soda varies by racial and ethnic group, with more consumption reported by Native Hawaiian, Other Pacific Islander, and Black residents and less consumption reported by Chinese, Japanese, Filipino, and White residents.[7] On average, teenagers in Hawaii consume more sugary drinks than other age groups, and nearly half of Hawaii teens (46%) drink one or more sugary drinks per day.[9] Public health researchers have suggested that excess intake of sugary drinks may be one of the single largest drivers of the obesity epidemic in the U.S.[10] An estimated 57% of adults and 28% of youth in Hawaii have overweight or obesity.[8,10]

Targeted marketing contributes to differences in consumption levels by income level. People who live in low-income areas are more exposed to advertisements for sugary drinks than those who live in high-income areas.[11] Exposure to advertisements may influence sugary drink consumption levels in these communities, as low-income consumers on average consume more sugary drinks than higher income consumers.[12]

Consumption of sugary drinks increases the risk of chronic diseases through changes in body mass index (BMI), insulin regulation, and other metabolic processes.[13-14] Randomized intervention trials and longitudinal studies have linked increases in sugary drink consumption to excess weight gain, diabetes, cardiovascular disease, and other health risks.[13-14] There are persistent racial and ethnic disparities across both sugary drink consumption levels and rates of obesity and chronic disease.[4-6] In light of this evidence, the Dietary Guidelines for Americans 2020-2025[15] recommend that individuals limit their sugary drink intake in order to manage body weight and reduce risk of chronic disease.

Targeted pricing strategies have emerged as one recommended strategy to reduce consumption of sugary drinks.[16] This strategy has been studied by public health experts, who have drawn on the success of tobacco taxation and decades of economic research to model the estimated financial and health impact of a sugary drink tax.[17-20] In Hawaii, rising costs of health care and insurance premiums are impacting businesses under Hawaii's Prepaid Health Care Act.[21] Passage of a sugary drink fee has been discussed as an effective strategy to reduce Hawaii's health care costs.[21-22] Public poll results in Hawaii show that there is support of a sugary drink fee as an approach to reduce obesity.[22]

This report aims to model the projected effect of a Hawaii sugary drink fee on health and disease outcomes over a decade. All drinks with added caloric sweeteners were considered subject to the fee, while 100% juice and milk products were considered exempt. The fee would be reflected in the posted price of sugary drinks, similar to an excise tax.

Key Terms

- **Fee**: a consumption fee collected from retailers or distributors and is reflected in the posted price, like an excise tax; a sales tax in contrast is applied after purchase of the item
- **Pass-through rate**: how much of the fee on distributors is passed on to consumers as an increase in shelf price; a percent ranging from 0% (none of the fee) to 100% (all of the fee)
- **Price elasticity of demand**: how much consumer purchasing behavior changes following a change in price of an item

How would a fee work?

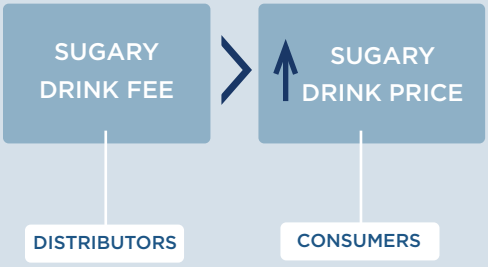
*Why is the fee structured like an excise tax rather than sales tax? Since an excise tax is mostly or entirely included in the price consumers see, it is more likely to affect consumer purchase behavior than a sales tax, which is added at the register.

MODELING FRAMEWORK: How fees on sugary drinks can lead to better health

A state fee is linked to change in BMI through change in sugary drink price and consumption

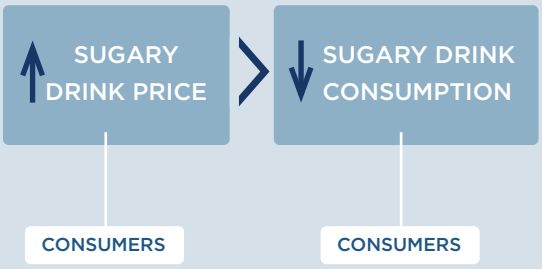
WHO IS AFFECTED	DISTRIBUTORS	CONSUMERS	CONSUMERS	CONSUMERS

How does a fee on distributors affect the price paid by consumers?



Since the cost of a sugary drink fee is incorporated directly into the beverage's sticker price, a fee structured like an excise tax will likely influence consumer purchasing decisions more than a comparable sales tax that is added onto the item at the register. We assume 100% pass-through of the fee over 10 years and assume the fee would be adjusted annually for inflation. Our pass-through rate estimate is supported by empirical studies of excise taxes in Mexico and France that demonstrate near-complete pass-through rates to consumers.[23] Short-term studies for the local tax in Berkeley indicate imperfect, or less than 100%, pass-through.[2,24-25] The Hawaii Department of Health used an existing tool[26] to collect beverage price data from 257 venues in Hawaii, including 74 supermarkets, 74 grocery stores, 90 limited-service venues, 18 fast food restaurants, and one gas station/convenience store. Retail prices were weighted by national share of purchase and consumption.[26] The weighted price of sugary drinks in Hawaii was $0.07 per ounce. For example, a $0.01/ounce fee would raise the price of a 12-ounce can of soda from $0.84/can to $0.96/can.

How does increasing the price of sugary drinks change individual sugary drink consumption?



To estimate current sugary drink consumption levels in Hawaii, we adjusted national estimates from the National Health and Nutrition Examination Survey (NHANES) 2011-2014 by race and ethnicity group using reported adult sugary drink consumption from the 2014 Hawaii Behavioral Risk Factor Surveillance System[27] and youth sugary drink consumption from the 2012, 2013, and 2017 Hawaii Rethink Your Drink Study.[28] How much consumers will change their purchases in response to price changes is called price elasticity for demand. We assume for every 10% increase in the price of sugary drinks, there will be a 12% reduction in purchases (a mean own-price elasticity of demand of -1.21).[29] Recent research on the Berkeley, CA $0.01/ounce tax found a 21% reduction in sugary drink intake among low-income populations consistent with this estimate.[24,30-33]

What are the individual health effects of decreasing sugary drink consumption?

Research has shown that decreasing sugary drink consumption can have positive effects on health in adults and youth. We estimated the impact of a change in sugary drink intake on body mass index (BMI), accounting for dietary compensation, based on rigorous studies identified in evidence reviews.[20] The relationship among adults was modeled based on the range of estimated effects from four large, multi-year longitudinal studies, which indicated that a one-serving reduction in sugary drinks was associated with a BMI decrease of 0.21 kg/m2 to 0.57 kg/m2 in adults over a 3-year period.[14,34-36] Among youth, we used evidence from a double-blind randomized controlled trial conducted over 18 months, which found that an additional 8-ounce serving of sugary drinks led to a 2.2 pound greater weight gain.[37]

Reach

This strategy applies to all youth and adults in Hawaii. However, the model only looks at the effects on those 2 years of age and older.*

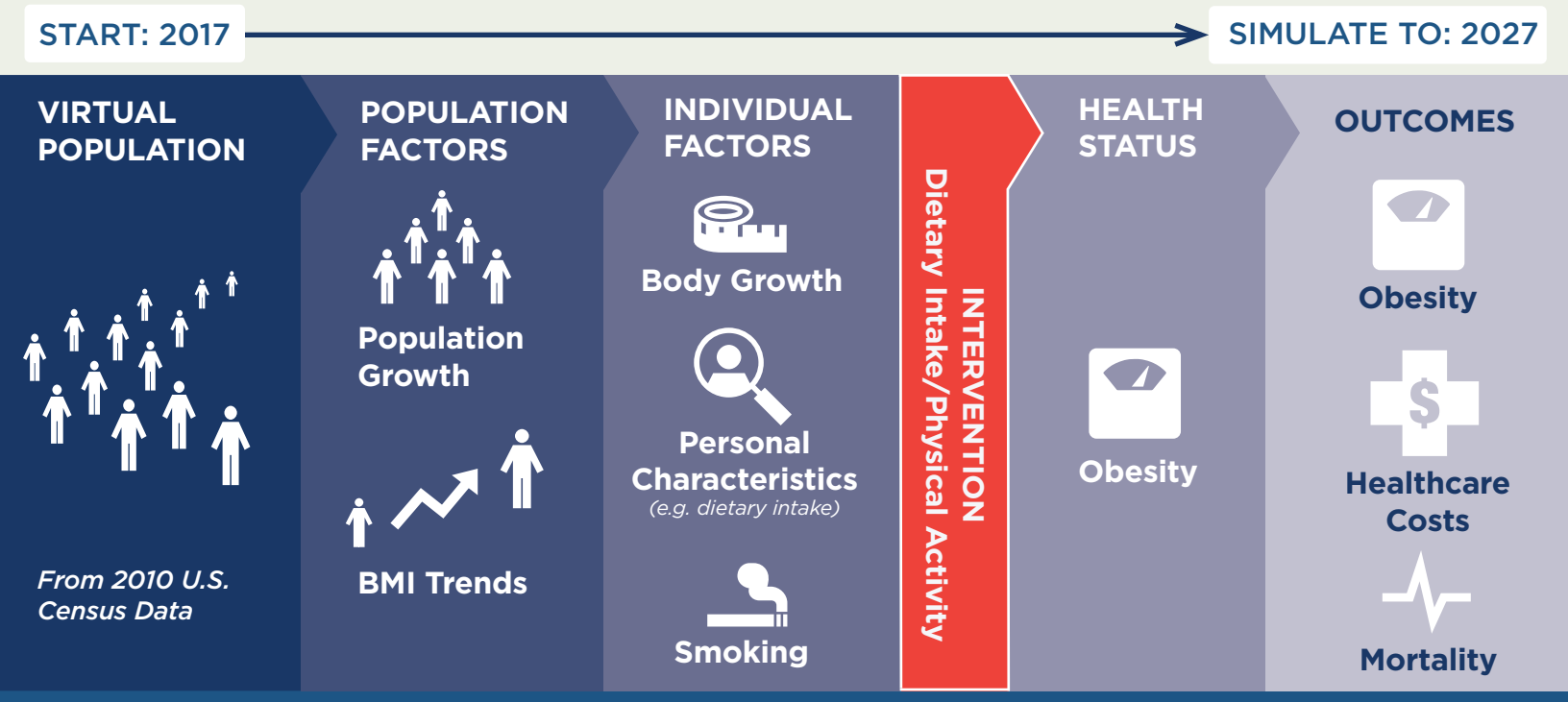
*BMI z-scores were used in our analyses, which are not defined for children under 2 years of age.

Cost

We assume the fee will incur start up and ongoing labor costs for fee administrators in the Hawaii Department of Health. To implement the strategy, the Hawaii Department of Health would need to process fee statements and conduct audits. Businesses would also need to prepare fee statements and participate in audits, which would require labor from private fee accountants. Cost information was drawn from the Hawaii state bottle recycling program and localities with planned or implemented fees on soft drinks.[20,38] The cost and benefit estimates do not include expected revenue from the fee.

CHOICES Microsimulation Model

The CHOICES microsimulation model for Hawaii was used to calculate the costs and effectiveness over 10 years (2017–27). Cases of obesity prevented were calculated at the end of the model period in 2027. The model was based on prior CHOICES work,[20,39] and created a virtual population of Hawaii residents using data from: the U.S. Census, American Community Survey, Behavioral Risk Factor Surveillance System,[40] NHANES, National Survey of Children's Health,[41] the Medical Expenditure Panel Survey, multiple national longitudinal studies, and obesity prevalence data provided by the Hawaii Department of Health. Using peer-reviewed methodology, we forecasted what would happen to this virtual population with and without a sugary drink fee to model changes in disease and mortality rates and health care costs due to the fee.

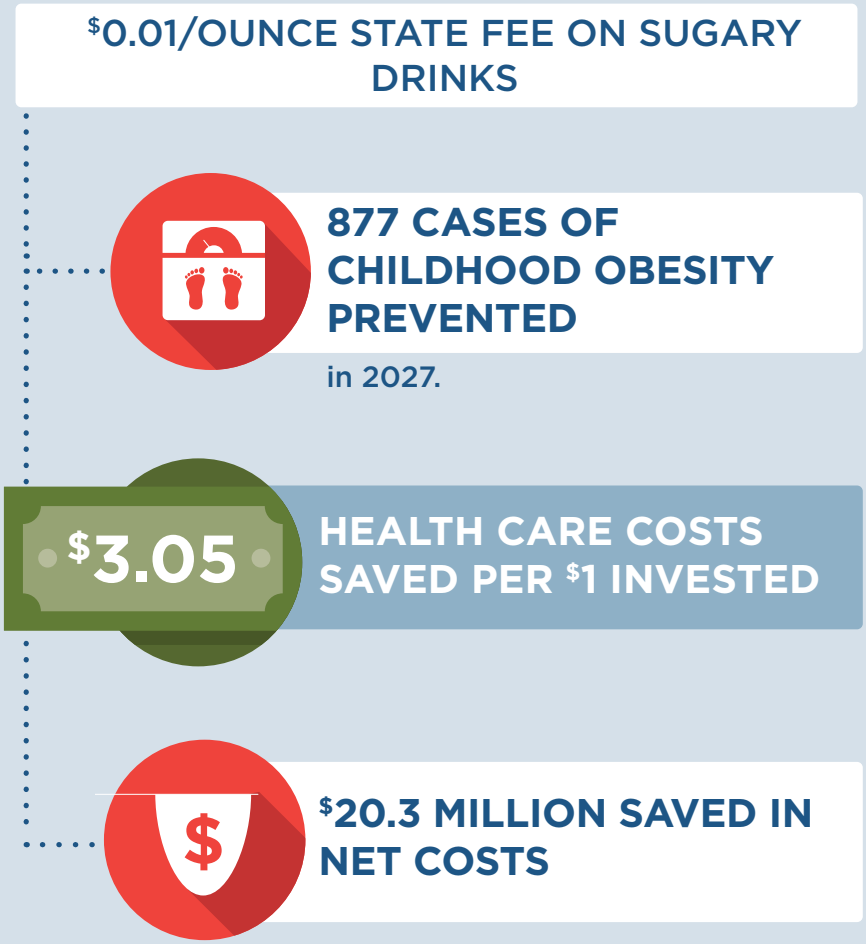


Results: $0.01/ounce State Fee on Sugary Drinks

Overall, the model shows that a sugary drink fee is cost-saving. Compared to the simulated natural history without a fee, the fee is projected to result in lower levels of sugary drink consumption, fewer cases of obesity, fewer deaths, and health care cost savings greater than $30 million over the 10-year period under consideration.

The estimated reduction in obesity attributable to the fee leads to lower projected health care costs, offsetting fee implementation costs and resulting in net cost savings. The difference between total health care costs with no strategy and lower health care costs with a strategy represent health care costs saved; these savings can be compared to the cost of implementing the fee to arrive at the metric of health care costs saved per $1 invested.

Results for additional fee rates can be found in Appendix 1 ($0.02/ounce fee) and Appendix 2 ($0.03/ounce fee).



Results: $0.01/ounce State Fee on Sugary Drinks

Outcome	$0.01/ounce fee Mean (95% uncertainty interval)
10 Year Reach*	**1,690,000** (1,690,000; 1,690,000)
First Year Reach*	**1,440,000** (1,440,000; 1,440,000)
Decrease in 12-oz Servings of Sugary Drinks per Person in the First Year*	**55** (32; 117)
Mean Reduction in BMI Units per Person*	**-0.115** (-0.288; -0.040)
10 Year Intervention Implementation Cost per Person	**$5.86** ($5.85; $5.87)
Total Intervention Implementation Cost Over 10 Years	**$9,900,000** ($9,900,000; $9,900,000)
Annual Intervention Implementation Cost	**$990,000** ($990,000; $990,000)
Health Care Costs Saved Over 10 Years	**$30,200,000** ($10,500,000; $74,300,000)
Net Costs Difference Over 10 Years	**-$20,300,000** (-$64,400,000; -$581,000)
Quality Adjusted Life Years (QALYs) Gained Over 10 Years	**1,790** (608; 4,530)
Years of Life Gained Over 10 Years	**505** (157; 1,300)
Deaths Prevented Over 10 Years*	**142** (38; 313)
Years with Obesity Prevented Over 10 Years	**43,300** (14,900; 109,000)
Health Care Costs Saved per $1 Invested Over 10 Years	**$3.05** ($1.06; $7.51)
Cases of Obesity Prevented in 2027*	**6,040** (2,160; 15,100)
Cases of Childhood Obesity Prevented in 2027*	**877** (321; 2,280)
Cost per Year with Obesity Prevented Over 10 Years	**Cost-saving**
Cost per QALY Gained Over 10 Years	**Cost-saving**
Cost per YL Gained Over 10 Years	**Cost-saving**
Cost per Death Averted Over 10 Years	**Cost-saving**

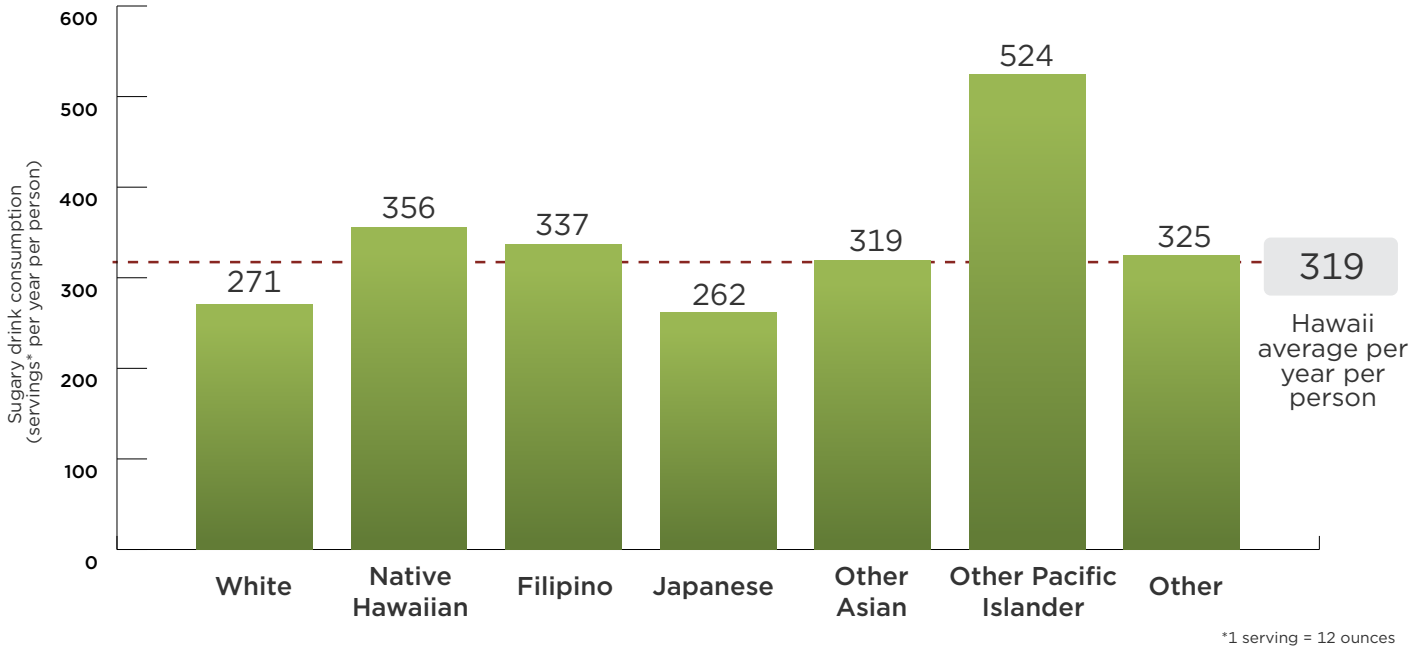
Uncertainty intervals are estimated by running the model 1,000 times, taking into account both uncertainty from data sources and virtual population projections, and calculating a central range in which 95 percent of the model results fell.

All metrics reported for the population over a 10-year period and discounted at 3% per year, unless otherwise noted.

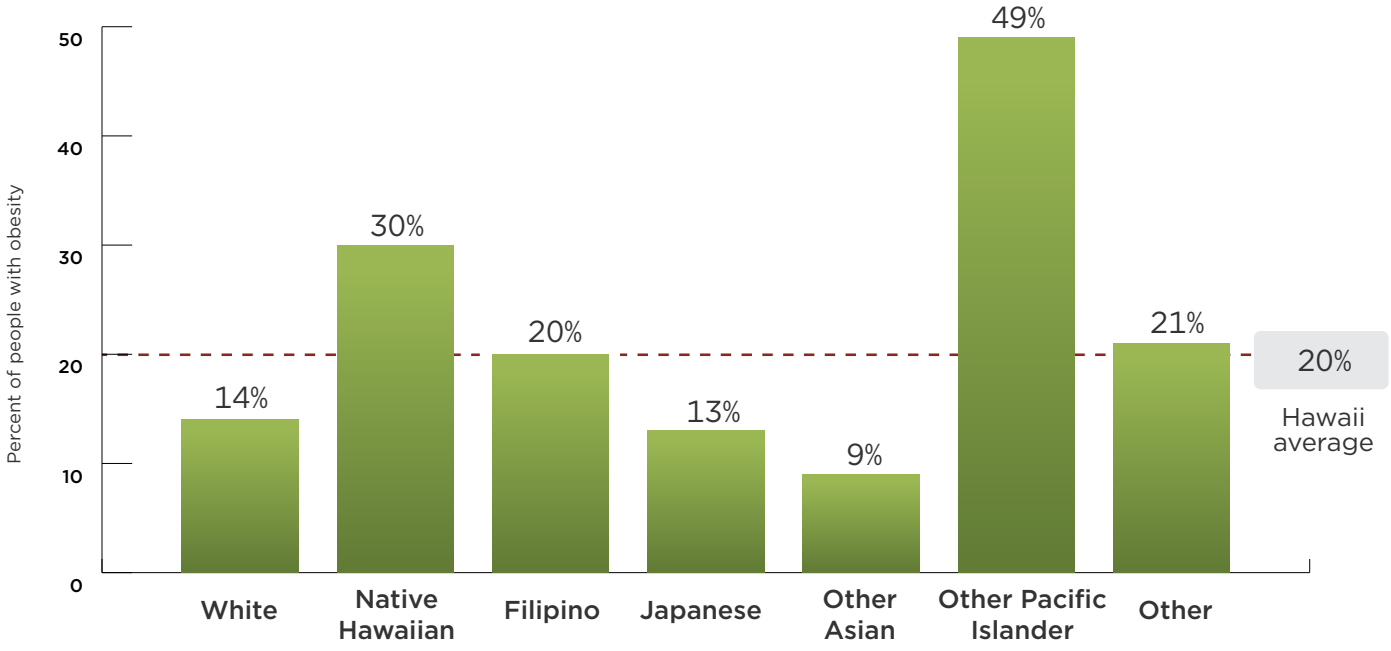
*Not discounted.

There are differences in sugary drink consumption and obesity prevalence by race and ethnicity in Hawaii. The CHOICES model used Hawaii data to build a virtual Hawaii population. Without any strategy:

Sugary drink consumption is highest in the Native Hawaiian and Other Pacific Islander populations



Obesity prevalence is highest in the Native Hawaiian and Other Pacific Islander populations



Results: $0.01/ounce State Fee on Sugary Drinks By Race and Ethnicity Groups

Outcome	Selected Results by Race and Ethnicity						
	White **Mean** (95% uncertainty interval)	Native Hawaiian **Mean** (95% uncertainty interval)	Filipino **Mean** (95% uncertainty interval)	Japanese **Mean** (95% uncertainty interval)	Other Asian **Mean** (95% uncertainty interval)	Other Pacific Islander **Mean** (95% uncertainty interval)	Other **Mean** (95% uncertainty interval)
Decrease in 12-oz Servings of Sugary Drinks per Person in the First Year*	**47** (27; 99)	**62** (36; 132)	**58** (34; 123)	**45** (26; 97)	**55** (32; 118)	**91** (53; 192)	**56** (33; 120)
QALYS Gained Over 10 Years	**318** (91; 976)	**491** (144; 1,350)	**336** (98; 953)	**197** (55; 548)	**104** (28; 296)	**153** (40; 440)	**189** (54; 535)
Years of Life Gained Over 10 Years	**88** (13; 276)	**127** (27; 356)	**111** (22; 327)	**64** (8; 192)	**33** (2; 99)	**40** (3; 133)	**41** (7; 127)
Years with Obesity Prevented Over 10 Years	**6,720** (2,010; 20,800)	**13,160** (3,930; 37,100)	**6,900** (2,110; 19,200)	**3,580** (1,080; 9,950)	**1,970** (611; 5,470)	**5,260** (1,670; 14,400)	**5,730** (1,750; 16,050)
Cases of Obesity Prevented in 2027*	**977** (293; 2,950)	**1,790** (536; 4,980)	**969** (296; 2,710)	**542** (161; 1,530)	**290** (87; 799)	**671** (202; 1,880)	**803** (248; 2,260)
Cases of Childhood Obesity Prevented in 2027*	**136** (38; 450)	**396** (121; 1,100)	**158** (47; 443)	**52** (14; 150)	**28** (7; 80)	**22** (70; 608)	**197** (58; 551)

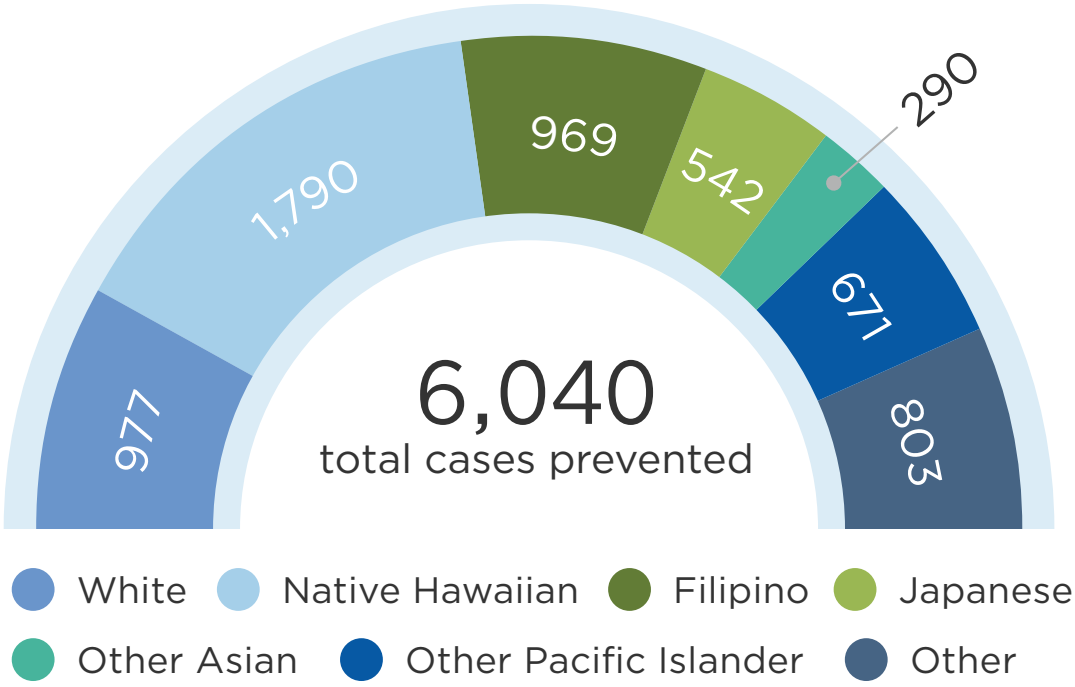
Uncertainty intervals are estimated by running the model 1,000 times, taking into account both uncertainty from data sources and virtual population projections, and calculating a central range in which 95 percent of the model results fell.

All metrics reported for the population over a 10-year period and discounted at 3% per year, unless otherwise noted.

*Not discounted.

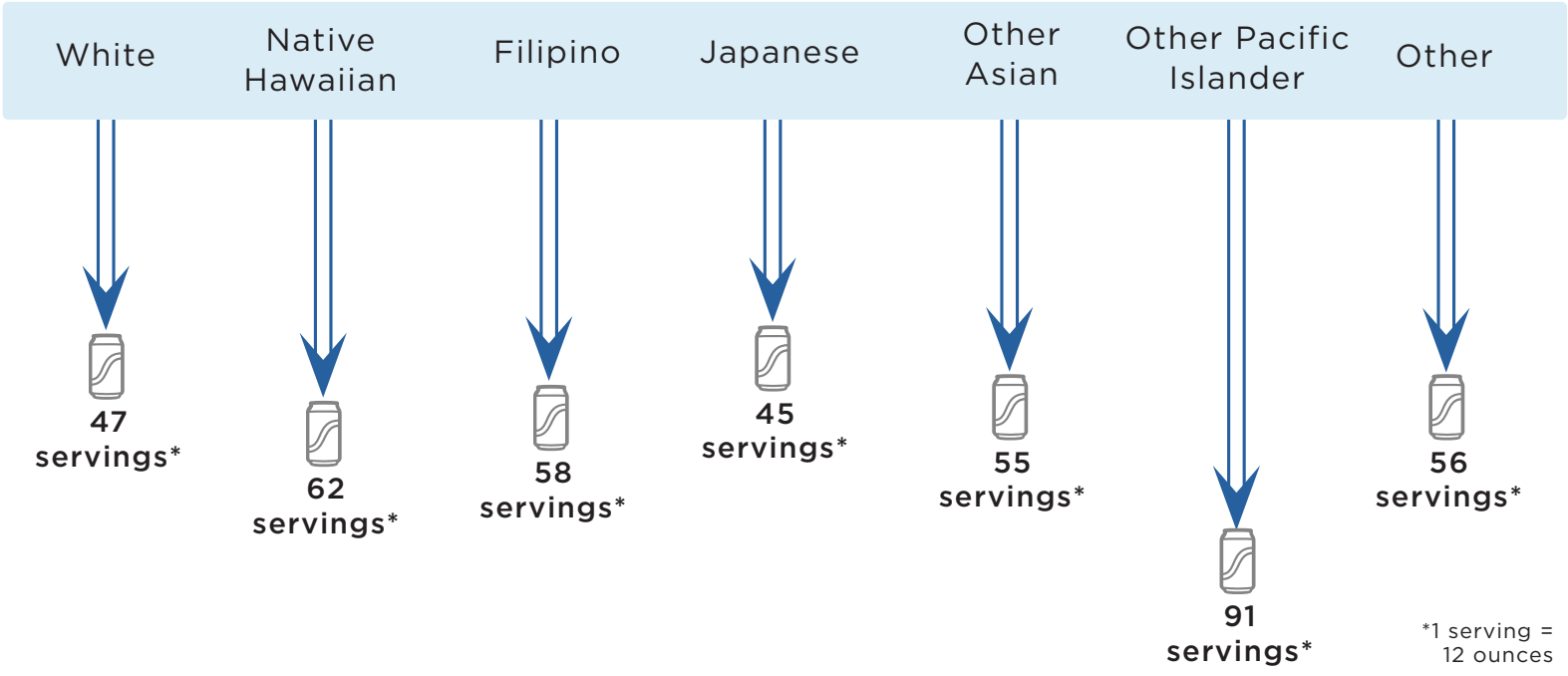
SNAPSHOT IN 2027

Cases of obesity prevented in Hawaii from a $0.01/ounce state fee on sugary drinks by race and ethnicity group*



*Sum of estimates for each group may not match total due to rounding

Some groups are projected to experience larger declines in consumption of servings* of sugary drinks per person in Hawaii in the first year of fee implementation

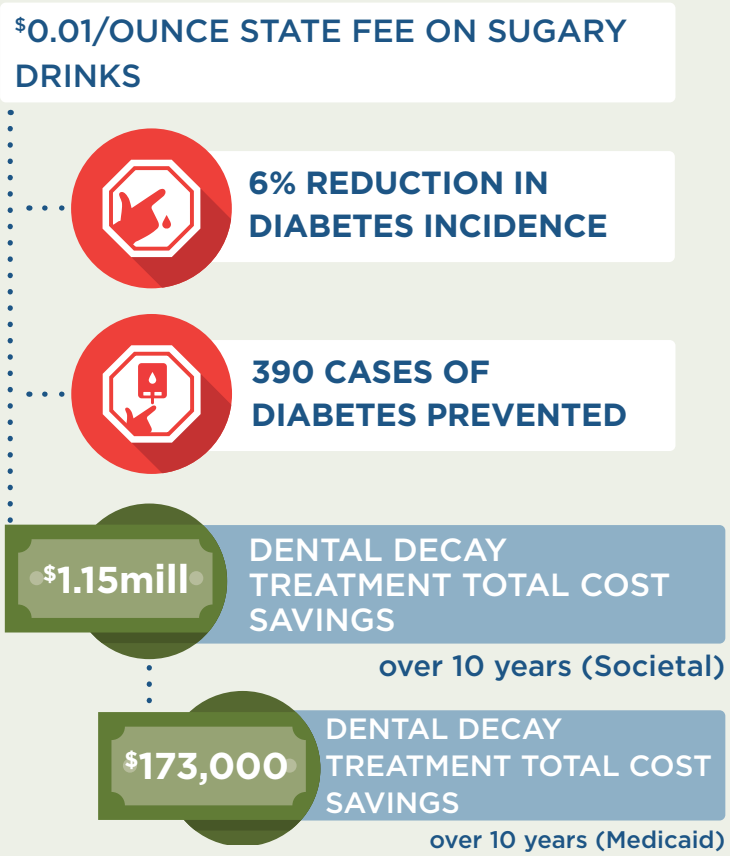


*1 serving = 12 ounces

Impact on Diabetes

We estimated the impact of the fee-induced reduction in sugary drink intake on diabetes incidence for adults ages 18-79 years using a published meta-analysis of the relative risk of developing diabetes due to a one-serving change in sugary drink consumption[42] as well as state-level estimates of diabetes incidence[43] and prevalence.[44] On average, each 8.5 ounce serving of sugary drinks per day increases the risk of diabetes by 18%.[42]

In Hawaii, we estimated that the proposed sugary drink fee would lead to a 6% reduction in diabetes incidence in the sugary drink fee models. Impact on diabetes incidence was calculated over a one-year period once the fee reaches its full effect. Impact on diabetes was calculated based on summary results from the model, not directly via microsimulation.



Impact on Tooth Decay

We estimated the impact of a sugary drink fee on tooth decay cost using a longitudinal analysis of the relationship between intake of sugars and tooth decay in adults. On average, for every 10 grams higher intake of sugar per day, there is an increase in decayed, missing, and filled teeth (i.e. tooth decay) of approximately 0.10 over 10 years.[45] There are many studies showing a similar relationship between higher intake of sugars and tooth decay in children and youth[46] and thus we assume the same relationship as found in adults.

We used 2018 Hawaii Department of Human Services Med-Quest procedure code[47] data to estimate a Medicaid cost of treating tooth decay as: $234 for a permanent crown on Oahu or $562 on neighboring islands, and $39 for a filling on Oahu or $55 on neighboring islands. These codes reflect treatment for one surface and do not reflect higher reimbursement rates for multi-surface treatment, temporary crowns, or potential flat fee schedules. Based on analysis of data on tooth decay, fillings, and crowns for the U.S. population from NHANES 1988-1994 (the last year crowns and fillings were separately reported),[48] we estimate that 78.9% of tooth decay in children and 43.5% of tooth decay in adults are treated. Using this same data set, we estimate that 97% of treatment for children is fillings and 82.5% of treatment for adults is fillings.

To estimate Medicaid-specific savings in costs of dental treatment, we used state estimates of the numbers of people enrolled in Medicaid and CHIP and the proportion receiving Medicaid dental services. Because of limited Medicaid dental coverage for adults in Hawaii, only children are included in the Medicaid-specific calculations. In Hawaii, we estimated that a $0.01/ounce fee would lead to a total of $173,000 in Medicaid savings over a period of 10 years due to a reduction in treatment of tooth decay. The Medicaid reimbursement fee estimates may underestimate the total cost savings of tooth decay treatment projected here as dental providers may charge higher amounts to patients.

Expected Yearly Sugary Drink Fee Revenue

The annual revenue from a state fee on sugary drinks is likely to be substantial. According to the Rudd Center Revenue Calculator for Sugary Drink Taxes[49] a $0.01/ounce fee in Hawaii could raise as much as $42.9 million in 2020.

Actual fee revenue may be lower than these projected estimates due to several factors. The Rudd Center Revenue estimates are based on regional sales data adjusted for state or city specific demographics;[50] sales data for specific states and/or cities within those regions may vary from the regional average. Retailers may have inventories of sugary drinks obtained before the fee was implemented. There may also be some distributors/manufacturers that are non-compliant with the fee. The Rudd Center notes that their revenue projections "should be adjusted downward by 10% - 30%."[49]

Rudd Center Revenue Projections (2020)	$0.01/oz fee on sugary drinks	$0.02/oz fee on sugary drinks	$0.03/oz fee on sugary drinks
Assuming 100% of Rudd Center projections	$42.9 million	$65.8 million	$68.8 million
Assuming 90% of Rudd Center projections	$38.6 million	$59.2 million	$62.0 million
Assuming 70% of Rudd Center projections	$30.0 million	$46.1 million	$48.2 million

Savings Per Year	$0.01/oz fee on sugary drinks	$0.02/oz fee on sugary drinks	$0.03/oz fee on sugary drinks
Individual savings on sugary drinks	$36	$104	$203
Household savings on sugary drinks	$109	$314	$614
Total Hawaii savings on sugary drinks	$20.6 million	$59.4 million	$116 million

Considerations for Health Equity

Concerns have been raised regarding the impact of the fee on households with low-income, because lower-income populations tend to consume more sugary drinks.[12] Economic studies indicate that with a sugary drink tax, consumers will buy less of these products.[29] This change in purchasing is substantial, so that consumers can be expected to spend less on sugary drinks after a fee is implemented. Using sales data from the Rudd Center Revenue Calculator for Sugary Drink Taxes,[49] along with local price data,[26,28] we project that individuals and households in Hawaii will spend less money on sugary drinks after a $0.02 per oz fee: about $104 less per year per person, and $314 per year less for an average household. This would free up disposable income for other consumer purchases. A typical consumer in Hawaii who continues to consume these beverages after the fee is in place would be expected to pay fees of about $2.50 per week, or $129/year.

In addition to these changes in spending, health benefits are projected to be greatest among low-income individuals. We project that more health benefits from this policy will accrue to low-income consumers; the same is true for a number of racial and ethnic groups. As noted above, in Hawaii, the percentage of adults who drink one or more soda per day varies by racial and ethnic group.[7] Under the proposed fee, we project that Native Hawaiian, Other Pacific Islander, and Filipino Hawaii residents would see more cases of obesity prevented than expected for the average Hawaii resident. On that basis, the proposed fee should decrease disparities in obesity outcomes and improve health equity.

These expected changes in consumption and health outcomes have led economists to conclude that low-income populations benefit substantially from sugary drink taxes.[51]

Implementation Considerations

Revenue raised from a sugary drink fee can be reinvested in low-income communities. For instance, in Berkeley, CA, sugary drink fee revenue has been allocated for spending on school and community programs, many serving low-income populations or communities of color, to promote healthy eating and diabetes and obesity preventions.[52] Public support for such fees generally increases with earmarking for preventive health activities.[53]

There is opposition from the food and beverage industry, which spends billions of dollars promoting their products.[54] Relatively small beverage excise taxes are currently applied across many states. The proposed fee is likely to be sustainable if implemented based on the successful history of tobacco cigarette stamp excise taxes. There is potential for a shift in social norms of sugary drink consumption based on evidence from tobacco control tax and regulatory efforts.[55] This shift in norms can be facilitated by assessing sugary drinks, which reduces the attractiveness of non-caloric beverages and discourages consumers from selecting any sugary drink options when making beverage decisions.

Conclusion

We project that the proposed fee policy will prevent thousands of cases of childhood and adult obesity, prevent new cases of diabetes, increase healthy life years, and save more in future health care costs than it costs to implement. Savings in future health care costs would lead to a slowing of rising health care premium costs for employers and individuals across Hawaii. Revenue from the fee can be used for education and health promotion efforts. Implementing the fee could also serve as a powerful social signal to reduce sugar consumption.

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For further information, contact choicesproject@hsph.harvard.edu and visit www.choicesproject.org

APPENDIX 1
Results of $0.02/ounce State Fee on Sugary Drinks

Outcome	$0.02/ounce fee Mean (95% uncertainty interval)
10 Year Reach*	**1,690,000** (1,690,000; 1,690,000)
First Year Reach*	**1,440,000** (1,440,000; 1,440,000)
Decrease in 12-oz Servings of Sugary Drinks per Person in the First Year*	**110** (64; 234)
Mean Reduction in BMI Units per Person*	**-0.218** (-0.576; -0.082)
10 Year Intervention Implementation Cost per Person	**$5.86** ($5.85; $5.87)
Total Intervention Implementation Cost Over 10 Years	**$9,900,000** ($9,900,000; $9,900,000)
Annual Intervention Implementation Cost	**$990,000** ($990,000; $990,000)
Health Care Costs Saved Over 10 Years	**$59,300,000** ($20,900,000; $146,000,000)
Net Costs Difference Over 10 Years	**-$49,400,000** (-$136,000,000; -$11,000,000)
Quality Adjusted Life Years (QALYs) Gained Over 10 Years	**3,520** (1,230; 8,710)
Years of Life Gained Over 10 Years	**994** (331; 2,460)
Deaths Prevented Over 10 Years*	**280** (81; 575)
Years with Obesity Prevented Over 10 Years	**84,300** (29,600; 208,000)
Health Care Costs Saved per $1 Invested Over 10 Years	**$5.99** ($2.11; $14.70)
Cases of Obesity Prevented in 2027*	**11,800** (4,280; 29,100)
Cases of Childhood Obesity Prevented in 2027*	**2,270** (629; 4,160)
Cost per Year with Obesity Prevented Over 10 Years	**Cost-saving**
Cost per QALY Gained Over 10 Years	**Cost-saving**
Cost per YL Gained Over 10 Years	**Cost-saving**
Cost per Death Averted Over 10 Years	**Cost-saving**

Uncertainty intervals are estimated by running the model 1,000 times, taking into account both uncertainty from data sources and virtual population projections, and calculating a central range in which 95 percent of the model results fell.

All metrics reported for the population over a 10-year period and discounted at 3% per year, unless otherwise noted.

*Not discounted.

APPENDIX 2
Results of $0.03/ounce State Fee on Sugary Drinks

Outcome	$0.03/ounce fee Mean (95% uncertainty interval)
10 Year Reach*	**1,690,000** (1,690,000; 1,690,000)
First Year Reach*	**1,440,000** (1,440,000; 1,440,000)
Decrease in 12-oz Servings of Sugary Drinks per Person in the First Year*	**165** (96; 351)
Mean Reduction in BMI Units per Person*	**-0.346** (-0.865; -0.123)
10 Year Intervention Implementation Cost per Person	**$5.86** ($5.85; $5.87)
Total Intervention Implementation Cost Over 10 Years	**$9,900,000** ($9,900,000; $9,900,000)
Annual Intervention Implementation Cost	**$990,000** ($990,000; $990,000)
Health Care Costs Saved Over 10 Years	**$87,500,000** ($31,200,000; $211,000,000)
Net Costs Difference Over 10 Years	**-$77,600,000** (-$201,000,000; -$21,300,000)
Quality Adjusted Life Years (QALYs) Gained Over 10 Years	**5,170** (1,840; 12,600)
Years of Life Gained Over 10 Years	**1,460** (515; 3,570)
Deaths Prevented Over 10 Years*	**410** (122; 832)
Years with Obesity Prevented Over 10 Years	**123,000** (44,000; 299,000)
Health Care Costs Saved per $1 Invested Over 10 Years	**$8.84** ($3.15; $21.30)
Cases of Obesity Prevented in 2027*	**17,300** (6,340; 41,500)
Cases of Childhood Obesity Prevented in 2027*	**3,270** (927; 5,730)
Cost per Year with Obesity Prevented Over 10 Years	**Cost-saving**
Cost per QALY Gained Over 10 Years	**Cost-saving**
Cost per YL Gained Over 10 Years	**Cost-saving**
Cost per Death Averted Over 10 Years	**Cost-saving**

Uncertainty intervals are estimated by running the model 1,000 times, taking into account both uncertainty from data sources and virtual population projections, and calculating a central range in which 95 percent of the model results fell.

All metrics reported for the population over a 10-year period and discounted at 3% per year, unless otherwise noted.

*Not discounted.