

Childhood Obesity Intervention Cost-Effectiveness Study

The CHOICES Project: Projecting Impact of a Sugary Drink Excise Tax in New York City on Health and Health Equity

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# **Disclaimer & Funding**

- » The CHOICES Project engages in research and education. The information presented in this discussion today is for educational purposes only and does not necessarily represent the position of any CHOICES Project funders.
- » This event is intended to provide information, tools, and resources to inform and educate the audience, and is *not an attempt to influence any specific legislation.*

This work is supported by This work is supported by the New York City Department of Health and Mental Hygiene and The JPB Foundation. The findings and conclusions are those of the author(s) and do not necessarily represent the official position of the funders.



# What is the CHOICES Project?

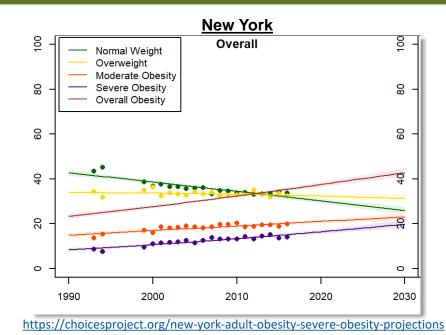


The Childhood Obesity Intervention Cost-Effectiveness Study (CHOICES) Project researches prevention policies and programs that will help more kids have a healthy weight and deliver the best results for the dollars invested.



# The Challenge

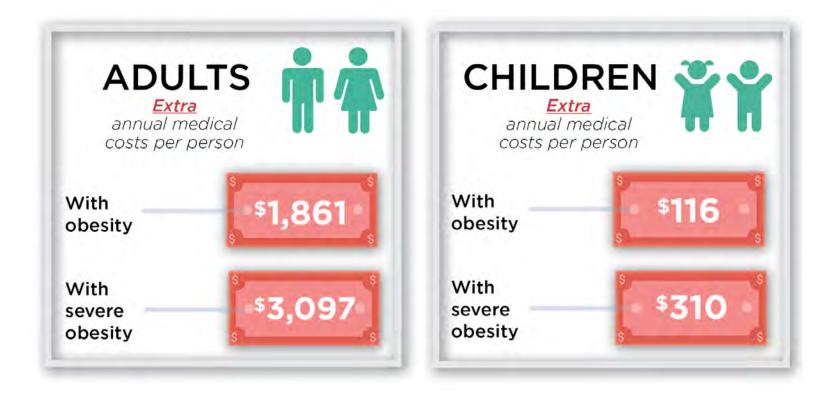
- » About half of the adult U.S. population is projected to have obesity & about a quarter to have severe obesity by 2030<sup>1</sup>
- » Nearly half (43%) of the adult New York state population is projected to have obesity & about 20% to have severe obesity by 2030<sup>1</sup>
- Racial/ethnic & economic disparities are projected to persist
- » The majority of today's children will have obesity at age 35<sup>2</sup>





<sup>1</sup> Ward ZJ, Bleich SN, Cradock AL, Barrett JL, Giles CM, Flax CN, Long MW, Gortmaker SL, *New England Journal of Medicine*, 2019 <sup>2</sup> Ward ZJ, Long MW, Resch SC, Giles CM, Cradock AL, Gortmaker SL, *New England Journal of Medicine*, 2017

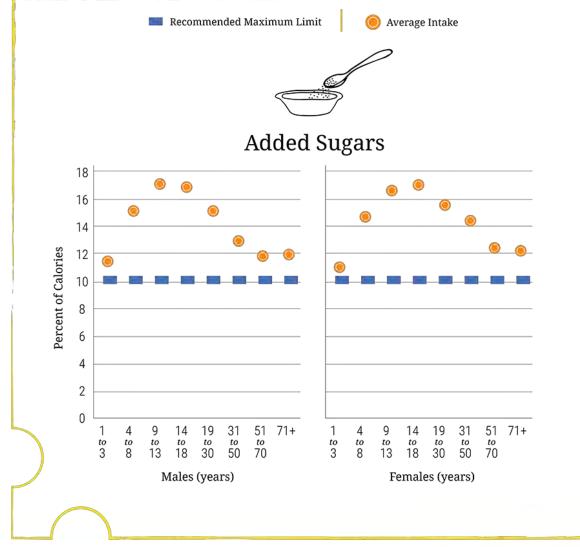
# **Higher Annual Medical Costs**





#### Why Reduce Sugar Drink Intake? U.S. Dietary Guidelines 2015-2020

Figure 2-9. Average Intakes of Added Sugars as a Percent of Calories per Day by Age-Sex Group, in Comparison to the *Dietary Guidelines* Maximum Limit of Less Than 10 Percent of Calories

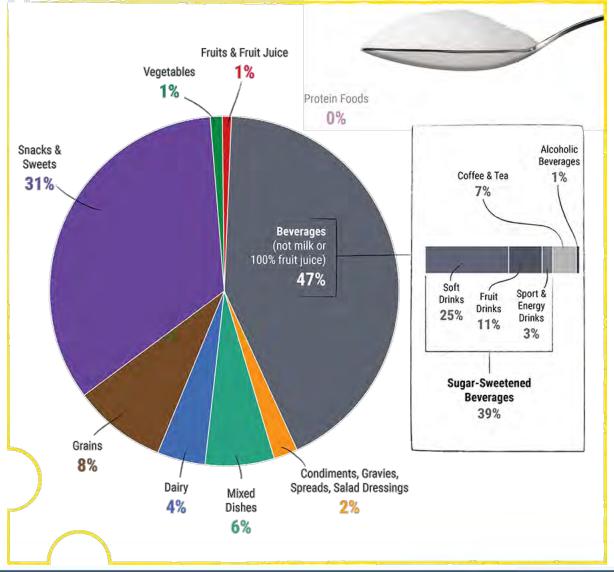


https://health.gov/dietaryguidelines/2015/guidelines/chapter-2/a-closer-look-at-current-intakes-and-recommended-shifts



#### Why Reduce Sugar Drink Intake? U.S. Dietary Guidelines 2015-2020

Figure 2-10. Food Category Sources of Added Sugars in the U.S. Population Ages 2 Years and Older





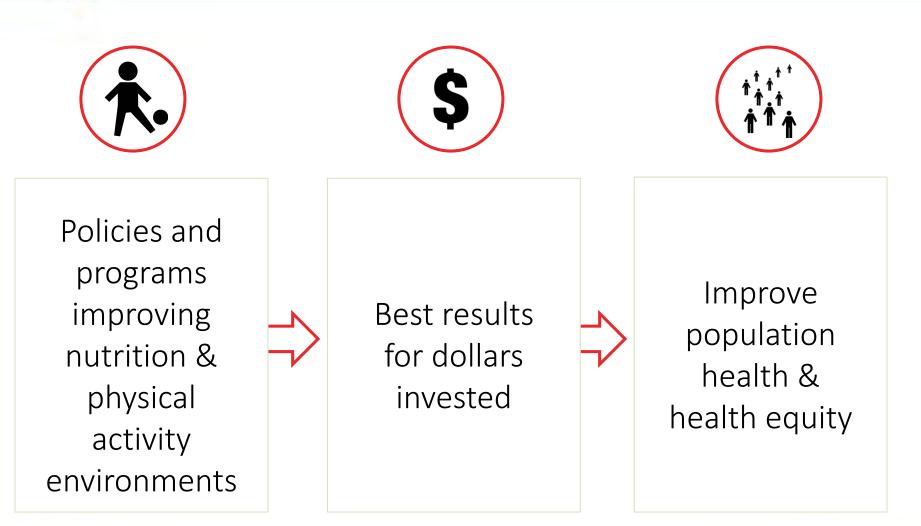
# What can we do about this?

- Strong evidence links sugary beverage intake to excess weight gain and future chronic disease<sup>1</sup>
- Note that research concerning these effects is recent - the past two decades (our Lancet study in 2001<sup>2</sup> was the first documenting risk to youth obesity)
- Sugary drink excise taxes can cost effectively prevent excess weight gain<sup>3</sup>

<sup>1</sup>Malik VS, Pan A, Willett WC, Hu FB. Am J Clin Nutr. 2013 Oct;98(4):1084-102.
<sup>2</sup>Ludwig DS, Peterson KE, Gortmaker SL. Lancet. 2001 Feb 17;357(9255):505-8.
<sup>3</sup>Gortmaker SL, Wang YC, Long MW, et al. Health Aff (Millwood). 2015 Nov;34(11):1932-9.



## What is CHOICES doing?





# **Cost-Effectiveness Analysis**

#### **Cost-Effectiveness Analysis**

#### compares the costs and outcomes of:

OR



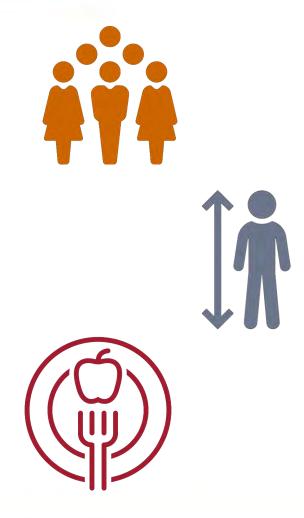
One policy or program strategy with no strategy



Two or more policy or program strategies



# **CHOICES Model**



#### Virtual population = 1 million people

- Based on massive amounts of national, state, & local data
- Accounts for characteristics like body growth & behaviors like dietary intake & smoking



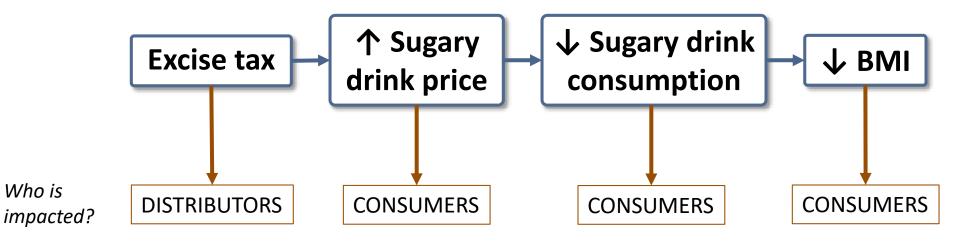
# What have we found?



There are strategies that are costeffective and **improve both population health and health equity. A sugary drink excise tax is one of those strategies.** 



# Sugary Drink Excise Tax





**Sugary drink**: a drink that has added sugars, including soda, sweetened iced tea, sports drinks, energy drinks, fruit punch, and other fruit-flavored drinks



### Projected Impact of a <sup>\$</sup>0.02/oz Tax in NYC

#### <u>Key Findings:</u>

- Lower levels of sugary drink consumption
- Thousands of people for whom obesity would be prevented
- Hundreds of millions of dollars in health care cost savings
- ✓ Improved health equity
- ✓ Substantial annual revenue (UConn Rudd Center Revenue Calculator)

#### NEW YORK CITY: Sugary & Diet

#### CHOICES

#### **Executive Summary**

High rates of obesity are one of the greatest public health threats facing the United States. Sugary drink consumption can lead to type 2 diabetes, hear disease, cavites, weight gain, and obesity. Overweight and obesity are linked to many chronic conditions such as high blood pressure and some cancers.

The current public health landscape demonstrates that nutrition remains critical, even during an infectious disease outbreak like COVID-19. Health conditions such as obesity, diabetes, and heart disease are related to nutrition and can increase the risk of severe lifness from COVID-19. Rates of these chronic diseases are still too high in New York CIty (NYC), disproportionately burdening communities of color.

Federal, state, and local governments have long considered implementing excise taxes on sugary drinks to reduce consumption, reduce obesity, and provide an additional source of government revenue<sup>3+</sup> As of 2019, seven U.S. jurisdictions are enforcing beverage tax policies.

We modeled implementation of a city excise tax using two scenarios. Scenario one included a tax on sugary drinks only and scenario two included a tax on both sugary and diet drinks. Each scenario examined three potential tax rates: \$0.01/ounce, \$0.015/ounce, and \$0.02/ounce.

All six tax models resulted in lower levels of sugary drink consumption, thousands of people for whom obesity would be prevented (note: referred to as "cases" throughout this report), improved health equity, and hundreds of millions of dollars in health care cost savings. The estimated effects of the interventions on health care costs were based on national analyses that indicated excess health care costs associated with obesity among children and adults' Health care sost savings per dollar invested ranged from \$12.80 to \$32.90 across the six models. Projections demonstrate that annual revenue generated from a sugary drink tax



#### Suggested Citation

Gortmaker SL, Long HW, Ward ZJ, Gles CH, Barriett JL, Resch SC, Kraatluger A, Gorton ME, Tao H, Fila CN, Cradock AJ, Alex Host CDC, Sugary & Cult Dreis Taxes. The CHOICES myster and the Harvard TI: Chan School of Jhulich Hallh (Josen, Next Taxes). Non-Information, plaase val <u>subachtoreservice</u> (Next Torenteer 2021. For more information, plaase val <u>subachtoreservice</u>).

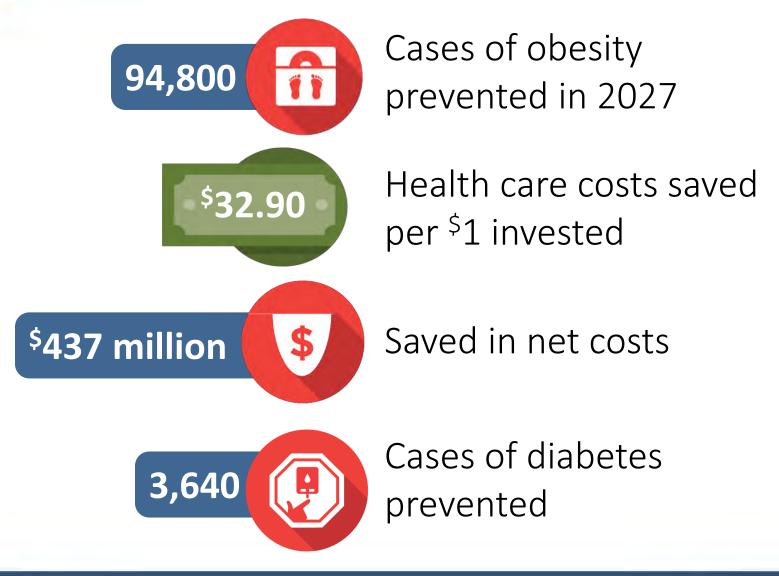
Garrow, MA. Marrow, MA. This work is supported by the New York City Dependence of Mally.

Mental Hysiene and The JMB Foundation. The findings and conclusions are those of the author(s) and do not necessarily represent the official monitori of the funders.

The information in this report is intended to provide educational information on the cost-effectiveness of supary drink lases.



#### Projected Impact of a <sup>\$</sup>0.02/oz Tax in NYC





#### Projected Impact of a <sup>\$</sup>0.02/oz Tax in NYC



Reduction in NYC Medicaid expenditures



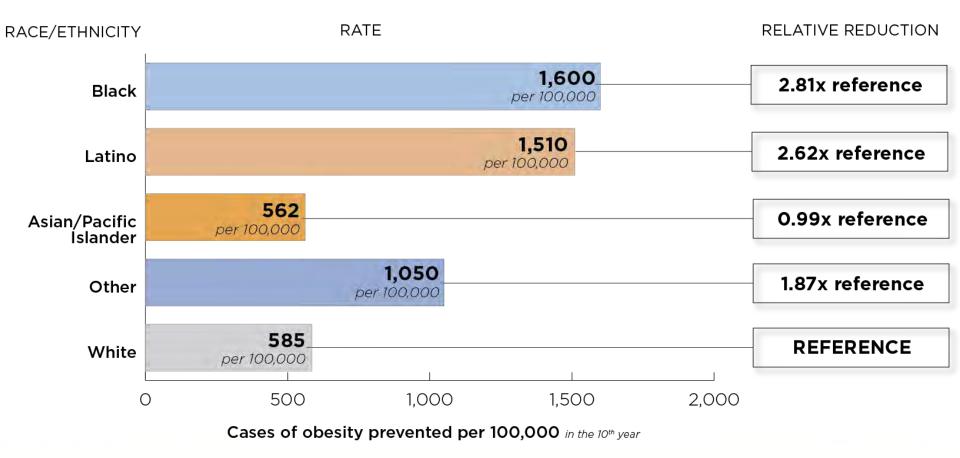
Total tooth decay treatment costs avoided over 10 years



Reduction in spending on sugary drinks per household in the first year



#### Projected Equity Impact of a <sup>\$</sup>0.02/oz Tax in NYC





### <sup>\$</sup>0.02/oz Tax in NYC: Impact on Health Equity



#### Projected annual revenue<sup>1</sup> \*Assuming 70% of Rudd Center projections



#### » This tax is **progressive**

- » Greater health benefits would accrue to Black & Latino New Yorkers, thus improving health equity
- » Revenue can be reinvested in communities with lower incomes if earmarked by legislature<sup>2</sup>



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