

# Sugar-sweetened beverage consumption declined among 7-10<sup>th</sup> grade students in San Francisco, California, from 2015-2019

Using a repeated cross-sectional study design, we examined trends in sugar-sweetened beverage (SSB) consumption among youth in San Francisco, CA, between 2015-2019, as various policy approaches to curb SSB consumptions were implemented. We found that **youths' SSB consumption declined across race/ethnic groups, with the largest declines occurring prior to the implementation of San Francisco's SSB tax.**

## Background

SSBs are a leading source of added sugar in our diets and are a major contributor to diabetes and tooth decay, among other diseases. SSB consumption is higher among youth than adults, and Black and Latinx youth are exposed to more SSB advertising and consume more SSBs than their white peers.

## SSB Policies

Between 2014-2018, multiple policies aimed at curbing SSB consumption were considered or enacted in San Francisco, California. In 2014, residents voted on but failed to pass an SSB excise tax. In 2015, the city's Board of Supervisors approved legislation to place warning labels on SSB advertisements, restrict SSB advertisements on city property and limit city spending on SSBs. In 2016, San Franciscans voted to approve an SSB excise tax, which was implemented in 2018.

## How was the study conducted?

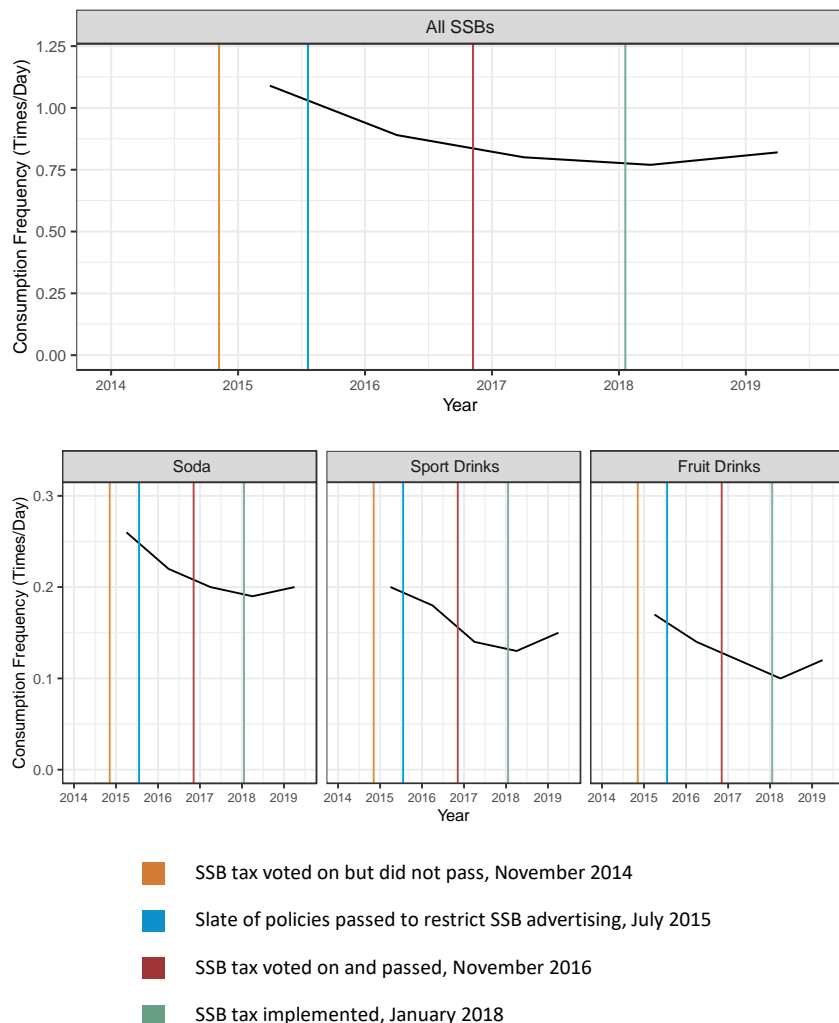
From 2015-2019, beverage consumption was measured by surveying 7-10<sup>th</sup> grade students in the San Francisco Unified School District using a modified Block Food Frequency Questionnaire for Kids (BFQ). The sample (31,396 student surveys) was diverse; 50% of students identified as Asian, 22% Latinx, 14% multiethnic/other, 11% White and 4% Black.

Students were asked how often they drank each of the following: regular and diet soda; sport, energy and fruit drinks; sweetened coffees, teas and boba; unsweetened water, and 100% fruit juice. All responses were converted to times per day.

## Key Study Findings

Between 2015-2019, SSB consumption among 7-10<sup>th</sup> grade students in San Francisco, CA declined, with the most significant declines occurring in 2016 and 2017.

Figure 1. Adjusted marginal predicted daily frequency of sugar-sweetened beverage consumption among 7-10<sup>th</sup> grade students in San Francisco, CA, 2015-2019



# Trends in sugar-sweetened beverage consumption among 7-10<sup>th</sup> grade students in San Francisco, California, from 2015-2019

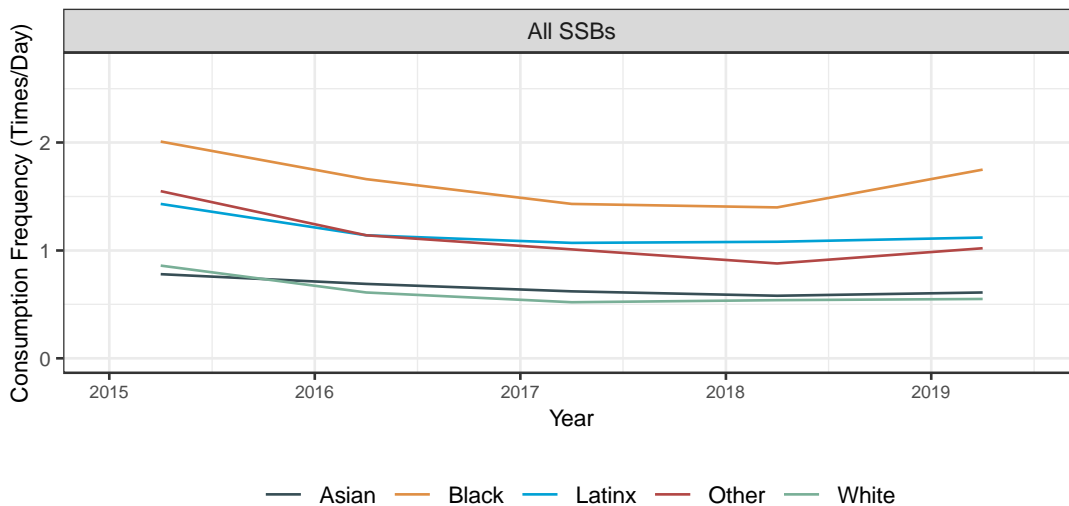


Figure 2. Adjusted marginal predicted daily frequency of sugar-sweetened beverage consumption among 7-10<sup>th</sup> grade students in San Francisco, CA, by race/ethnicity, 2015-2019

Consumption of soda, sport drinks, and fruit drinks declined during the study period (Figure 1), although consumption of SSBs increased again in 2019 (the increase was statistically significant for sports drinks only). Changes in consumption were similar across racial/ethnic groups (Figure 2).

Interestingly, students reported the most significant declines in SSB consumption between 2015-2017, before San Francisco's SSB tax was implemented. The price of SSBs did increase in San Francisco following implementation of the tax in 2018, and economic models predict that consumption would subsequently decline.

Although changes in consumption were similar across racial/ethnic groups and all students reported declining SSB consumption during the study period, Black and Latinx students continued to report higher levels of SSB consumption than Asian and White students.

This is consistent with statewide trends and highlights an urgency to address the social determinants of health associated with racial/ethnic disparities in SSB consumption.

## Public Health Implications

Across the United States, SSB consumption has been found to consistently decline following implementation of SSB taxes.

Indeed, we found a reduction in SSB consumption among San Francisco youth from 2015-2019, coinciding with multiple policy approaches to curb consumption. As efforts to reduce SSB consumption are implemented across the United States, it is important to assess trends in youth consumption.

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