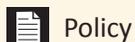


Table of Contents

-  **1** Mexico's sugary drink tax is projected to decrease diabetes and heart disease. Sanchez-Romero et al. *PLoS Med.*
-  **2** Half of Berkeley's sugary drink tax was passed onto consumers. Cawley and Frisvold. *J Policy Analysis Manage.*
-  **3** TV ads increase consumption of children's high-sugar cereal. Longacre et al. *Appetite.*
-  **4** Foods marketed to children and their parents have the most sugar. Lapiere et al. *Public Health Nutr.*
-  **5** Snacks advertised for babies and toddlers are more appropriate for older ages. *Rudd Center for Food Policy and Obesity.*



Policy



Epidemiology



Science



Communications

FIND US ON SOCIAL MEDIA



We'd love to hear from you! Provide feedback on this publication at this [link](#). Send us articles you think should be included in future issues: pvallila@hfamerica.org.

To subscribe to Research Watch or other Healthy Food American publications, click [here](#).

POLICY

Projected impact of Mexico's sugar-sweetened beverage tax policy on diabetes and cardiovascular disease: a modeling study.

Sanchez-Romero LM, Penko J, Coxson PG, et al. *PLoS Med.* 2016 (in press)

Key Question: What long-term impact will Mexico's peso-per-liter sugary drink tax have on diabetes, cardiovascular disease, mortality, and health care costs?

Key Finding: A 10 percent decline in consumption (similar to the tax's impact in its first year) would prevent 189,300 cases of diabetes, 20,400 strokes and heart attacks, and 18,900 deaths among adults over 10 years.

Implications: Small changes in sugary drink consumption can have substantial long-term impact on chronic disease rates and mortality.

In January 2014, Mexico took a bold step by implementing a peso-per-liter excise tax on sugary drinks (approximately a 10 percent tax). The tax reduced sugary drink consumption within its first year, particularly in households of low socio-economic status, but its long-term impact on disease rates is unknown. The decline in consumption could appear to be small (12 percent by December 2014), but modeling studies can project how this translates into disease rates over several years.

Sanchez-Romero and colleagues filled this gap using a computer simulation model known as the Cardiovascular Disease Policy Model (CVDPM). This model has been used in other countries to project long-term rates of disease, mortality, and health care costs for up to 25 years into the future. The authors applied CVDPM to estimate the impact of changes in sugary drink consumption among people age 35-94 in Mexico over 10 years (2013-2022). The authors simulated consumption declines of 10 percent and 20 percent, as well as varying amounts of calorie replacement (none, 39 percent, and 100 percent).

The projected health impact was substantial under all simulation scenarios, though precise estimates varied across scenarios. In a relatively conservative scenario where sugary drink consumption declined by 10 percent and calorie compensation was moderate (39 percent), there were 189,300 fewer diabetes cases (a 4.9 percent decline) and health care costs were reduced by the equivalent of \$983 million U.S. dollars. Even under the most conservative scenario, when calorie compensation was 100 percent, the number of diabetes cases declined by 66,000.

Effects were approximately twice as high if sugary drink consumption declined by 20 percent instead of 10 percent. This may occur if Mexico, as planned, invests the tax revenue in other public health programs, such as providing drinkable water in schools. ■

Limitations: Simulation models require assumptions that cannot be tested, such as accounting for other behavioral changes that may occur. The 39 percent estimate of calorie compensation was based on data from the United States, not Mexico. Estimates were probably conservative given that the model did not include children and young adults, nor did it include indirect cost savings.

The pass-through of taxes on sugar-sweetened beverages to retail prices: the case of Berkeley, California. [🔗](#)

Cawley J, Frisvold DR. *J Policy Analysis Manage.* 2016 (in press)

Key Question: To what extent was Berkeley's penny-per-ounce tax on sugary drinks passed through to consumers?

Key Finding: Sugary drink prices rose by .431 cents per ounce more in Berkeley compared to neighboring San Francisco – which had no tax – indicating that 43.1 percent of the tax was passed through to shelf prices. For larger products, the pass-through rate was higher among stores that were farther from untaxed stores.

Implications: Sugary drink taxes may partially be absorbed by distributors or retailers to protect against cross-border shopping, particularly in a relatively small city such as Berkeley.

Exercise taxes on sugary drinks are intended to discourage their consumption by increasing prices. However, the tax may not increase sugary drink prices if distributors or retailers choose to absorb the tax rather than pass it through to consumers. Studies of national

sugary drink taxes in other countries found that taxes were passed through at least 100%, but a study of Berkeley's sugary drink tax reported lower pass-through rates.

Cawley and Frisvold conducted an independent study of pass-through rates in Berkeley. They compared changes over time in prices of select sugary drinks in Berkeley compared to San Francisco, which did not pass a tax. Price data were collected from most stores in Berkeley and a random sample of stores in San Francisco in December 2014 (prior to the tax) and May/June 2015 (after the tax). They collected data on six brands of sugary drinks, in varying sizes (e.g., 20 oz, 2 L).

Across all brands and sizes, the average difference in price change was .431 cents, representing a 43.1 percent pass-through rate. This is similar to overall results from a previous study by Falbe and colleagues, who reported a 47 percent pass-through rate for all sugary drinks combined. However, Falbe and colleagues reported substantial differences across brands, sugary drink type, and retailer type, whereas Cawley and Frisvold reported consistent results across brands and store type. Cawley and Frisvold did find pass-through rates were higher among smaller products and when competing stores were further away.

The authors carefully noted that they were not arguing against a sugary drink tax. As they pointed out, a price increase is only one way that a tax may decrease consumption. Their study did not measure residents' consumption. Their analyses were also not weighted by sales, which would affect how the pass-through rates translated into changes in consumption. ■

Limitations: The sample included independent stores, where tax collection was not required until January 2016. The sample also included a small number of sugary drink types, which may be relevant given that other studies have reported large differences by type.

MARKETING

Child-targeted TV advertising and preschoolers' consumption of high-sugar breakfast cereals. [🔗](#)

Longacre MR, Drake KM, Titus LJ, et al. *Appetite*. 2016; 108:295-302.

Key Question: Do child-targeted TV ads for high-sugar breakfast cereals increase children's consumption?

Key Finding: Exposure to TV ads for high-sugar breakfast cereals was significantly associated with intake of these products. Preschoolers consumed 14 percent more high-sugar cereals for every 10 high-sugar cereal TV ads viewed. Most cereals contained almost half of a child's daily allowance for sugars per the American Heart Association recommendations.

Implications: The Children's Food and Beverage Advertising Initiative should revise their standards to ensure that vulnerable populations, like preschoolers, are not exposed to advertising for high-sugar food.

The breakfast cereal industry is the second leading food advertiser to children under 12. One study found child-targeted cereals contain 57 percent more sugar than adult-targeted cereals. In the lab setting, families are more likely to choose these products

after viewing advertisements for them. Longacre and colleagues assessed whether this association is found in a real-world setting.

Between April and December, 2013, parents of children three to five years old (n=548 parents) were recruited from pediatrics outpatient and WIC clinics in New Hampshire to complete a 15-minute survey. The survey asked about their child's media use and food choices. To measure food consumption, parents were presented with ten children's high-sugar breakfast cereals that were leading advertisers on kids' TV channels in the last three quarters of 2013. Sugar content of these cereals ranged from 9 to 12 grams per one-ounce serving. Parents reported how many of these cereals their child had eaten in the last seven days. To measure media use, parents reported their child's weekly exposure to specific TV channels. To figure out what ads these children were seeing, authors gathered information about child-targeted advertisements for high-sugar cereals that aired on kids' channels during the time period children in the study were watching TV. Authors calculated an advertisement exposure score to estimate the average number of child-targeted high-sugar breakfast cereal ads each child was exposed to.

More than half (57 percent) of preschoolers ate child-targeted high-sugar breakfast cereal, and 41 percent saw ads for these products in the previous week. Nickelodeon, which aired three of these ads per hour, was the most viewed channel airing high-sugar cereal advertising. Children consumed 14 percent more high-sugar cereals for every 10 high-sugar cereal TV ads they viewed. Household income was also a significant predictor of high-sugar cereal intake; children from higher income households reported less consumption. ■

Limitations: Sample was socioeconomically diverse but not racially diverse. Cereal consumption was measured via self-report and may not represent true intake. Parents reported their child's weekly TV viewing time by channel, and the advertising exposure measure assumed equal viewing time across the channels.

Child-directed and nutrition-focused marketing cues on food packaging: links to nutritional content. [🔗](#)

Lapierre MA, Brown AM, Houtzer HV, Thomas TJ. *Public Health Nutr.* 2016 (in press)

Key Question: Are foods marketed with both child- and parent-targeted cues less healthy than foods that do not try to appeal to both audiences?

Key Finding: Foods with packaging cues directed at both parents and children were significantly less healthy, containing more sugar and less protein.

Implications: Industry guidelines are needed to curb the use of packaging and promotions that make unhealthy foods more attractive to children and parents.

The packaging of children's food often aims to appeal to children as "fun" and to parents as "healthy" for children. Studies show that packaging as a marketing tactic does influence whether consumers purchase a product. Lapierre and colleagues assessed whether the

combination of child-focused and parent-focused packaging (packaging with nutrition claims) is associated with the healthfulness of products.

Authors collected information from 715 packaged foods from one branch of a regional supermarket chain in the southeastern US in spring of 2014. The sample of foods included all cereal aisle products (n=403) and a random sample of the rest of the supermarket (n=312). The whole cereal aisle was included because these products (cereal and snacks) are heavily marketed to children. Products were coded based on the presence of child-targeted marketing (such as child-friendly cartoon images) and parent-targeted marketing (such as nutrient content claims or health iconography like a heart). The number of each type of cue was summed to create a score for each product. Authors collected the amount of calories, fat, saturated fat, sodium, sugar, protein, and fiber per serving in each product.

As the number of child-friendly cues increased, so did the sugar content, while the fat, protein, and fiber content decreased. As the number of parent-friendly cues increased, so did the fiber content, while energy density, saturated fat, sugar, and sodium decreased. When looking at how the presence of both cues impacted nutritional content, authors found foods with the most parent- and child-friendly cues had the highest sugar content.

Authors looked at foods in the cereal aisle in a separate analysis. Child-friendly cues were associated with less sodium, protein, and fiber but more sugar. Parent-friendly cues were associated with lower energy density, saturated fat, sodium, and sugar, but more protein and fiber. Like the findings for foods overall, packages with more child and parent cues had the highest sugar content. ■

Limitations: Authors were only given a limited time to collect their sample of products, which impacted their ability to collect a true random sample. Authors were granted access to only one supermarket in a small chain located in one region of the US; results may not be generalizable to all US supermarkets.

Baby Food Facts 2016: Nutrition and marketing of baby and toddler food and drinks.

Harris JL, Fleming-Milici F, Frazier W, et al. *Rudd Center for Food Policy and Obesity*, 2016.

Key Question: Do the nutritional quality of foods and beverages marketed to parents for their babies and toddlers, and the messages used to promote these products, align with expert advice about feeding young children?

Key Finding: Snacks aimed at babies and toddlers had nutritional quality similar to snacks marketed for older children. Ad spending for toddler milks, also known as toddler formula, surpassed ad spending for infant formula. These drinks are not recommended for young children and have poor nutritional content, but parents may think these transitional beverages are necessary and healthy.

Implications: Expansion of the Children's Food and Beverage Advertising Initiative should include standards for the marketing of baby and toddler food and drinks.

The Rudd Center for Food Policy and Obesity publishes reports on sugary drink nutrition and marketing to children and teens. New this year is a report on the healthfulness and marketing of baby and toddler food and beverages. Birth to age two is a critical window for establishing healthy dietary practices and preferences. Studies have found that the nutritional content of and messages used to promote baby and toddler products often do not align with expert advice, including that children under two should not consume added sugars.

Harris and colleagues conducted a comprehensive review of the nutritive content of infant and toddler food and beverages, advertising spending and practices, and marketing messages. Authors used a variety of data sources for their analysis including Nielsen marketing data from 2015 and nutrient and product packaging from 2016. They used the Nutrient Profile Index (NPI) score – derived from total calories and proportion of healthy and unhealthy nutrients – to measure the healthfulness of 371 baby and 148 toddler food products offered by four companies and six brands, and 42 baby and toddler drink products offered by five companies and seven brands. A score of 64 or higher identifies a nutritious food.

In 2015, advertising spending for baby and toddler food, infant formula, toddler milk, and one nutritional supplement brand aimed at young children totaled \$77 million in all media, primarily TV and magazines. Except for snacks, the nutritional quality of all baby and toddler foods was very high. Baby and toddler snacks had a median NPI score of 56 and were similar in nutritional quality to snacks marketed for older children and adults, such as Cheetos reduced-fat puffs and animal crackers. Four of the 80 baby and toddler snacks had a NPI score of 68 or higher. Half of baby snacks and 83 percent of toddler snacks contained added sweeteners.

Toddler milk is a growing market, even though the American Academy of Family Physicians and the American Academy of Pediatrics recommend against serving it because there is no evidence it has advantages over whole milk for children ages one to two. Spending on ads for infant formula declined from 2011 to 2015, while toddler milk spending increased, surpassing infant formula spending in 2014. Compared with infant formula, toddler milk had more saturated fat, sodium, and protein, but these products also contained added sweeteners. The sugar content of toddler milks ranged from a median of six grams per serving to 15. Nine of 12 toddler milk brands received a NPI score of 68 or higher. ■

Limitations: Data come from one data source and sample of infant and toddler food and beverages. They may not represent all products on the market.

Sweetened beverage intake and risk of latent autoimmune diabetes in adults (LADA) and type 2 diabetes. [🔗](#)

Lofvenborg JE, Andersson T, Carlsson P, et al. *Eur J Endocrinol.* 2016; 175: 605-14.

In a sample of Swedish adults, consumption of select sugary drinks and diet sugary drinks was associated with both type 2 diabetes and latent autoimmune diabetes (LADA). Results suggested that the excess risk of LADA was due to the same mechanisms as the excess risk of type 2 diabetes (e.g., insulin resistance). The study had important limitations, however. It used a case-control design, which is particularly vulnerable to self-report bias because participants are asked to recall past levels of consumption. Furthermore, participants were only asked about a limited number of sugary drinks.

Research Watch reviews the evidence on the health effects of sugar and the effectiveness of policy and other interventions to curb consumption to inform sugar reduction activities across the US.

Healthy Food America acts on scientific evidence to drive change in food policy and industry practice, giving people greater control over their health and reducing diet-related illnesses, such as obesity, diabetes, and heart disease.

This publication was prepared by Dan Taber (@DanTaber47) and Petra Vallila-Buchman.