

Published by Business for Impact at Georgetown University's McDonough School of Business September 2024 **Business for Impact**

GEORGETOWN UNIVERSITY McDonough School of Business

AUTHOR

Hank Cardello serves as executive director of the Leadership Solutions for Health + Prosperity program at Georgetown University's Business for Impact and chair of the Portion Balance Coalition. He is a regular contributor to <u>Forbes</u> on food industry matters pertaining to consumer health and well-being.

For over three decades, Hank was an executive at some of the world's largest food and beverage companies, including President of Cadbury-Schweppes' Sunkist Soft Drinks, Inc., Vice President of Marketing for Canada Dry, Director of Marketing for Coca-Cola USA, and Brand Manager for Anheuser-Busch and General Mills. He has served as Chief Executive Officer for several nutritional ingredient companies and, in 2000, was identified as a "Top 10 Innovator" in the Nutritional Foods industry. Most recently, Hank was senior fellow and director of the Food Policy Center at Hudson Institute.

Hank's perspectives have been shared in numerous publications, including the Wall Street Journal, The New York Times and the Washington Post as well as the major television networks and CNN, NPR and the BBC. He is the author of the book Stuffed: An Insider's Look at Who's (Really) Making America Fat and several landmark reports including the Robert Wood Johnson Foundation supported Better-foryou Foods: It's Just Good Business, and New Realities at Retail Checkout: Challenges and Opportunities for Instant Consumable Candy and Snacks (supported by the National Confectioners Association). He has moderated expert panels at the White House, the U.S. Chamber of Commerce, and the Partnership for a Healthier America among others and served as advisor in developing NCA's Always a Treat Initiative in conjunction with the Partnership for a Healthier America.

Hank holds a B.S. degree Magna Cum Laude in materials science and metallurgical engineering from Lehigh University, and an MBA in marketing from the Wharton Graduate School, University of Pennsylvania.

Contact: hjc64@georgetown.edu

ACADEMIC REVIEWER

Richard Black, PhD, an Adjunct Professor at the Tufts University Friedman School of Nutrition Science & Policy, is the Chief Science Officer of WISEcode, a company whose mission is to be the source of the most complete, accurate, nutritionally comprehensive, global food and ingredient database. Richard is also the Chief Nutrition Advisor at Thrive365, a company that seeks to simplify diet choices for people suffering from type II diabetes, helping with blood glucose management. Richard serves on the Dean's Advisory Board for McMaster University's Faculty of Science and is a frequent consultant to the Bill & Melinda Gates Foundation on issues concerning nutrition and health.

Richard has over 30 years of experience in the food and beverage industry, having served as the Chief Nutrition Officer and VP Global Nutrition Sciences at both Kraft/Mondelēz and PepsiCo. He was the recipient of IFT's Babcock-Hart Award (given for significant contributions in food technology that resulted in public health through some aspects of nutrition) and the inaugural USDA John A. Milner Lectureship award. Beginning his career as an Assistant Professor in Nutrition Sciences at the University of Toronto, he has also worked for Kellogg's, Nestlé, Novartis, and ILSI NA.

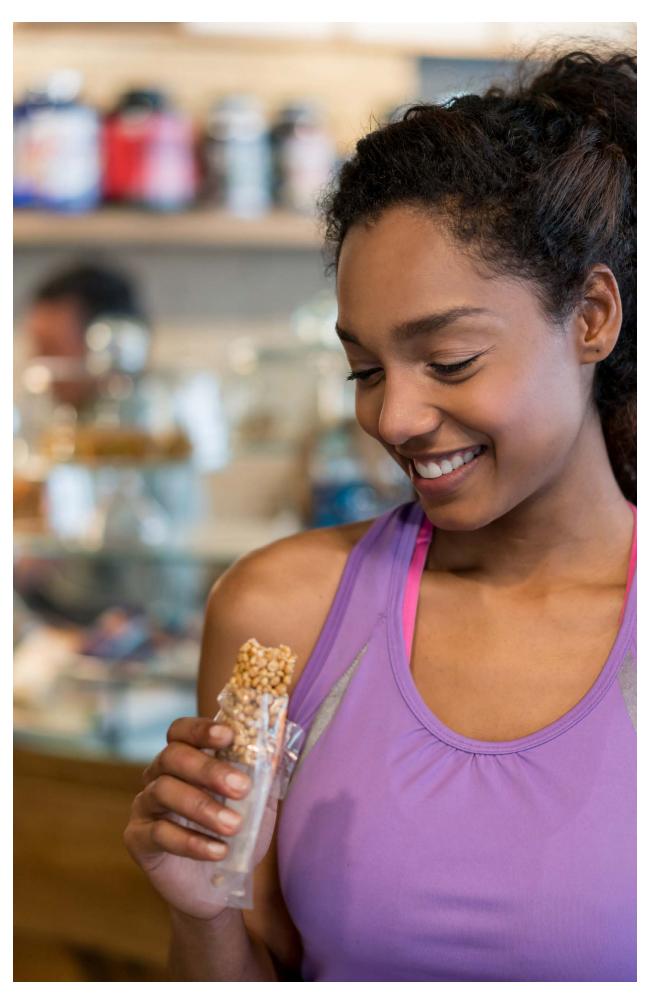
Richard has been invited to present his views by such organizations as the Lancet Commission on Obesity, the National Academies of Science, George Washington University Milken Institute School of Public Health and the International Sweetener Colloquium on topics ranging from structuring the dietary guidelines, the food industry and obesity, and the impact of sugarsweetened beverage taxes on health and business. He has also published a number of papers exploring the role of sweet foods in the diet, low-calorie sweeteners and weight management, new approaches to the dietary guidelines, and facts and myths surrounding artificial sweeteners.

Dr. Black attended McMaster University and earned a Bachelor of Science degree in Chemistry as well as in Psychology (summa cum laude) along with a Ph.D. in Experimental Psychology.

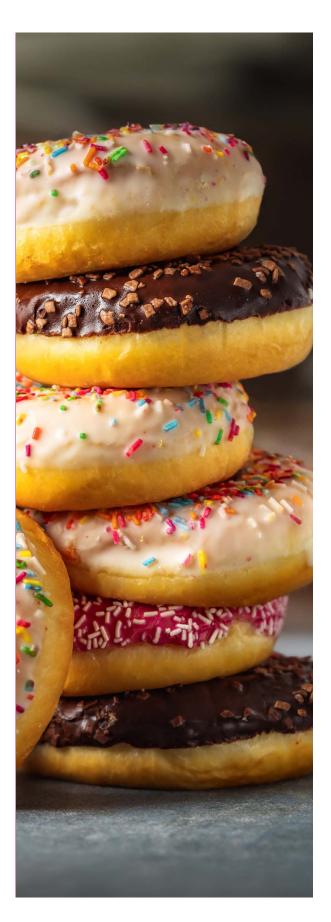
Contact: Richard.Black@tufts.edu

Special thanks to Cathy Buday for contributing substantially to the writing and editing of this document.

Funding for this paper was provided by the National Confectioners Association.



EXECUTIVE SUMMARY + INTRODUCTION



As obesity rates have continued their upward march unabated, ultra-processed indulgent foods and beverages have been under heavy scrutiny by policymakers and public health advocates for their potential negative effect on consumer health. Prescriptions to reduce added sugar, ban products at retail checkout lanes and add warning labels to the front of packages are targeting all such products collectively.

This paper will demonstrate that treating all ultra-processed indulgent products the same is not an effective "blanket" strategy to pursue. Our findings, using National Health and Nutrition Examination Survey (NHANES) and Natural Marketing Institute consumer segmentation data, reveal that chocolate and candy do not behave the same as other ultra-processed indulgent products for two reasons: they contribute fewer calories and added sugars, plus the amounts consumed are significantly lower. This result is consistent with the 2022 Georgetown University report titled *All Indulgent Products Are Not Created Equal.*¹

Further, incorporating results from the 2024 Georgetown University Power of Portions report, our study highlights that around half of chocolate and candy purchasers want smaller portions and that the industry and individual confectionery companies are pursuing strategies focused on helping consumers enjoy their products as "treats." We note that other product sectors should adopt this pragmatic approach.

The desired impact of this paper is to help guide policymakers and public health officials to make more informed and effective decisions that reflect actual consumer attitudes, usage behaviors, and purchase patterns of ultra-processed indulgent foods and beverages.



CONTENTS

Author + Academic Reviewer
Executive Summary + Introduction
Americans' Continuing Battle with Obesity
Regulatory and Environmental Overview
The Food & Beverage Industry Response to Overconsumption and Obesity
New Consumer Insights on Candy
The Growing Importance of Portion Sizes to Consumers
Conclusions
Implications for Policy
Endnotes

AMERICANS' CONTINUING BATTLE WITH OBESITY

As obesity rates continue to rise globally, the public health community and regulators continue to look for ways to dampen the impact of ultra-processed, indulgent foods and beverages on consumer diets. Both in the US and around the world, regulators have pushed for new measures to limit the consumption of products deemed to be ultra-processed "junk foods." Examples include taxing sugar-sweetened beverages; labeling pre-packaged food products with warning symbols to signify higher amounts of salt, sugar, and saturated fat; and restricting the display of indulgent and ultra-processed items at food retailer checkout counters. To give consumers guidance, in September 2022, the White House House's Conference on Hunger, Nutrition, and Health recommended that the FDA develop a standardized front-of-package (FOP) labeling system for pre-packaged food products to help consumers quickly and easily identify foods that can help them build a healthy eating pattern.²

Larger portion sizes have contributed to the excess consumption that has impacted health in America and worldwide. Since 1970 the average bagel has doubled in size, from two to four ounces. A normal serving of spaghetti and meatballs now weighs a pound; an average order of French fries is over 50% larger; and a standard serving of ice cream has increased to two-thirds of a cup.³

Such oversized portions not only contain more energy but also encourage people to overeat. As portion sizes gradually increase and people become accustomed to them, they eat more and it takes longer for them to feel full, as Barbara Rolls, Alissa Smethers and Faris Zuraikat pointed out in their 2019 research.⁴ Combined with other factors such as less exercise and more sedentary lifestyles, burning off the excess calories is very difficult.⁵

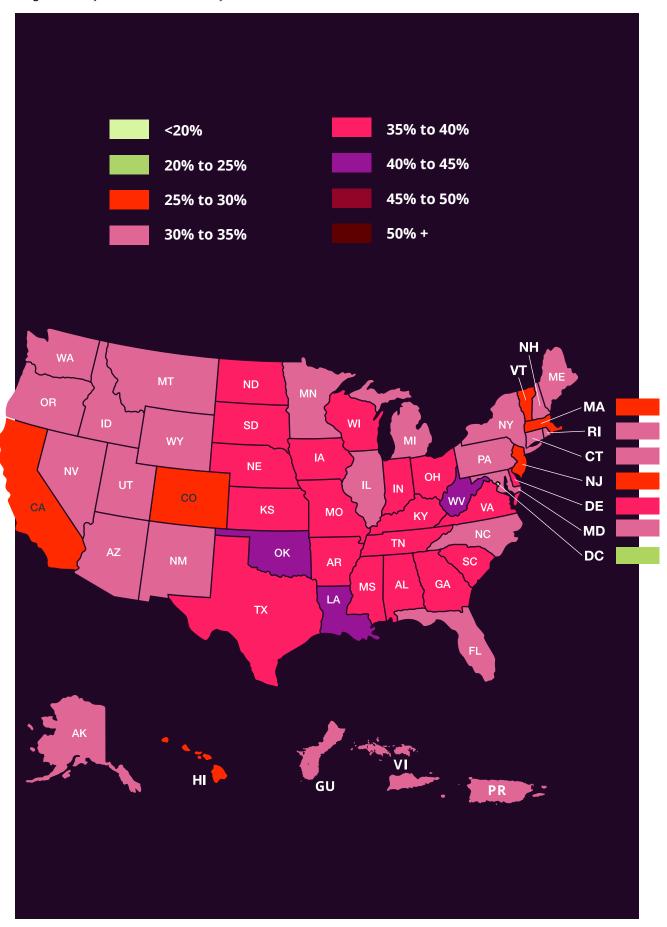
Overeating is one of the many factors contributing to the sharp rise in people living with obesity. In September 2023 the Centers for Disease Control and Prevention (CDC) reported that 22 states now exhibit an adult obesity rate at or above 35%, compared to 19 states in 2021 (see Figure 1).⁶ Just 10 years earlier, no state recorded a rate that high. And according to the Organization for Economic Cooperation and Development (OECD) Health at a Glance 2023 report, the U.S. ranks 33 out of 38 OECD countries for average life expectancy.⁷

The CDC also estimates that obesity affects 14.7 million children and teens, or 19.7 percent in the US.8 According to the CDC, childhood obesity prevalence in the years 2017-2020 was 12.7% among 2- to 5-year-olds, 20.7% among 6- to 11-year-olds, and 22.2% among 12- to 19-year-olds. Childhood obesity is more of a problem in some populations than in others. Its prevalence was 26.2% among Hispanic children, 24.8% among non-Hispanic Black children, 16.6% among non-Hispanic White children, and 9.0% among non-Hispanic Asian children.

US obesity rates rose by 3% during the first year of the COVID-19 crisis, when people stayed at home and ate more comfort food. In a 2020 International Food Information Council (IFIC) survey, over one in three (36%) consumers said that they were snacking more during the pandemic. One year into the COVID-19 pandemic, the American Psychological Association conducted a national survey with The Harris Poll to understand the impact of the pandemic on long-term physical and mental health. They found "a majority of adults (61%) reported experiencing undesired weight changes, with 42% indicating that they gained more weight than they intended."

While the pandemic caused a spike in obesity rates, the persistently high prevalence of obesity and its related health problems — type 2 diabetes, coronary heart disease, high blood pressure, and certain cancers — have prompted the public health community, regulators, and lawmakers at all levels of government to attempt to find ways to reverse the tide of obesity.

Figure 1. Twenty-two states now have obesity rates of at least 35%12



REGULATORY AND ENVIRONMENTAL OVERVIEW

The obesity crisis has attracted attention from lawmakers and policy experts around the world. Areas of particular interest include reduction of sugar in the diet, retail checkout bans, and food package labeling.

SUGAR REDUCTION

Consuming high amounts of added sugars can contribute to health problems such as weight gain and obesity, type 2 diabetes, heart disease, and certain cancers. ¹³ Added sugars comprise 13% of total calories in the diet, with sugar sweetened beverages and desserts & snacks contributing the largest amounts of added sugars in the diet. (See Figure 2)

Sources of Added Sugars



19% Desserts + Snacks **7%** Sandwiches **7%**Breakfast
Cereals + Bars

9% Candy + Sugar

Total

Calories

in the Diet

13%

Added Sugar

4% Higher Fat Milk + Yogurt

19% Other Sources

Figure 2. Added sugars comprise 13% of the total calories in the diet.¹⁴

To highlight public health concerns about sugar, three major organizations and committees have taken stances to limit the intake of added sugars in the diet:

To reduce the risk of unhealthy weight gain and tooth decay, the World Health Organization (WHO) in 2015 published recommendations for adults and children to reduce their daily intake of free sugars to less than 10% of their total energy intake. WHO also advised that a further reduction to below 5%, or roughly 25 grams (6 teaspoons) per day, would provide additional health benefits. ¹⁵ According to Dr. Francesco Branca, Director of WHO's Department of Nutrition for Health and Development at the time, "We have solid evidence that keeping intake of free sugars to less than 10% of total energy intake reduces the risk of overweight, obesity and tooth decay."

U1

02

The USDA Dietary Guidelines for 2020-2025 (DGA 2020-2025) reflect the latest science-based advice to help adults and children make healthy decisions about what to eat and drink, including consuming nutrient-dense foods and beverages, and limiting added sugars and saturated fats to less than 10% of calories per day.¹⁶

03

The American Heart Association (AHA) goes a step further and recommends capping added sugars to no more than 6% of calories each day.¹⁷ While the AHA guidelines represent no more than 6 teaspoons of added sugar daily for women and 9 teaspoons for men, the average American eats 17 teaspoons of added sugar every day, the CDC notes.¹⁸

US efforts so far to address the impact of diet on obesity rates have been fragmented and have not impacted the populations that need direction the most, as this paper notes later. While some regulatory efforts have been national in scope (e.g., placing calories on restaurant menu boards), most

other approaches to discourage consumption of certain products high in calories, added sugars, sodium, and/or saturated fats through interpretive labeling, taxation, or bans have been local, and have experienced either stiff opposition or inconclusive results at best.

RETAIL CHECKOUT BANS

In March 2021, Berkeley, California instituted a ban on candy and "junk food" at retail checkout lanes. The city's "Healthy Checkout Ordinance" uniformly banned food with more than 5 grams of added sugar or 200 mg sodium per serving from being displayed in checkout aisles. 19 So far there has been no improvement on the region's obesity rates compared to the rest of California. According to the Robert Wood Johnson Foundation County Health Rankings & Roadmaps, the obesity rate for Alameda County (where Berkeley and two other sugar-sweetened beverage taxing cities are located) stood at 22% at inception. Today it is up to 25%,20 paralleling a similar rise (+4 percentage points) for the entire state of California. Moreover, while Berkeley had implemented a soda tax in 2015, which led to a year-one 9.6% decrease in soda sales, Alameda County has not shown an improvement in obesity rates compared

to the state of California, with both entities up 5 percentage points between 2016 and 2024.²¹

Despite the lack of evidence supporting any beneficial impact on obesity rates of Berkeley's checkout bans, a second California city, Perris, passed a similar ordinance to go into effect on January 1, 2024. This Ordinance for Healthier Options at Checkout Lanes requires grocers larger than 2,500 square feet to provide healthy food and beverage items as the "default" choice at checkout aisles. Snacks and drinks that have more than 200 calories, contain trans fats, derive more than 35% of their calories from total added sugars, or have more than 200 milligrams of sodium, are not permitted within six feet of the register.²²

As of the date of this report, no other cities have enacted indulgent food bans at retail checkout.

INTERPRETIVE FRONT-OF-PACK (FOP) LABELING

In September 2022, the Biden-Harris Administration issued its National Strategy on Hunger, Nutrition, and Health. Among the pillars of the strategy was to empower consumers with updated food labeling to make healthy choices.²³

One of the objectives cited was to develop a standardized front-of-package (FOP) labeling system to communicate nutrition information quickly and easily. The report claimed that FOP labeling systems can provide equitable access to nutrition information to help consumers make more informed choices and could also incentivize industry to reformulate foods

to be healthier. Among the labeling systems being examined are "interpretive labeling," or warning labels that use traffic light-type schemes and "High In" alerts.

The FDA has canvassed stakeholders, including consumers, to obtain their input to help determine its FOP recommendations. Based on the comments and directions advanced so far, it appears that government and public health officials are proceeding under the assumption that interpretive labels will help consumers the most in identifying healthier options that could aid in reducing obesity rates and in improving public health outcomes.

Chile Example: Black Stop Sign Warning Labels

Figure 3. Black stop sign symbols on front-of-pack in Chile.²⁴



The latest data published by the Organization for Economic Cooperation and Development (OECD) has shown that 74% of Chilean adults over 15 are overweight or obese, up from 64.6% in 2009-2010. This is the highest prevalence in the region, ahead of Mexico (72.5%) and the United States (71%).²⁵

In June 2016, Chile was the first country worldwide to implement a FOP warning label. (See Figure 3) The regulation utilized black octagonal stop signs on the front of food packages containing high amounts of calories, added sugar, saturated fat, and/or sodium. These types of labels have expanded to other Latin American countries including Peru, Mexico, Uruguay, Columbia, Argentina and Venezuela (December 2024).

Researchers at the University of North Carolina at Chapel Hill studied the results of the labeling initiative in Chile. Preliminary findings (not yet peer reviewed) indicate that labeling reduced sales of products with high amounts of sugar by 20%; by 14% for products high in sodium; and by 9% for products high in saturated fat.²⁶ However, the ultimate goal – reducing the incidence of obesity – has yet to be achieved. In that regard, the effort appears unsuccessful. The obesity rate for Chilean adults over 15 years of age actually increased in the first years after the law was implemented, from about a quarter of the

population to more than a third. And in May 2024, Chile's National Board of School Aid and Scholarships (JUNAEB) reported that half of Chile's preschool, elementary, and middle school students were living with overweight or obesity.²⁷

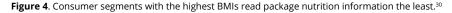
Further, in a study published in the Pan American Journal of Public Health, researchers at The University of Texas at Austin found that one year after Chile's food reforms, overweight and obesity did actually fall by one to three percentage points among students in Pre-K, kindergarten and first grade. However, those rates rebounded to pre-reform levels the next year, in 2018. Results for teens were worse than those for young children. Among ninth graders, overweight and obesity prevalence rose by over two percent in the three years after the reforms.²⁸

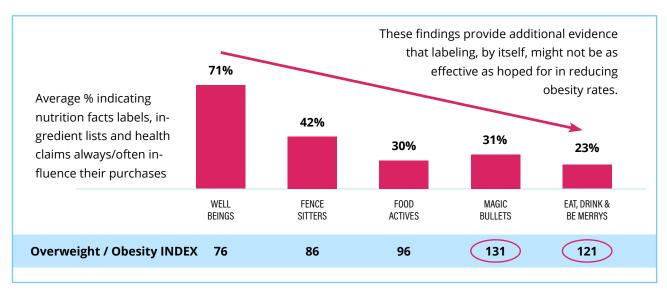
So far it appears that these labeling policies are not reversing rising obesity rates. Even though the sales and consumption of targeted products have declined, there is no clear measure of what consumers might be switching to instead. This is known as the "substitution effect." Measuring ALL foods and beverages that consumers purchase and consume is critical. Combining this with updated overweight/ obesity data will be necessary to make a full assessment as to the effectiveness of these programs.

Target Consumers Read Nutrition Labels the Least

One problem with using package labels as a strategy is that consumers living with higher rates of obesity are far less likely to read them. Recent Natural Marketing Institute (NMI) research shows that people with the highest Body Mass Indexes (BMIs) read nutrition labels the least.²⁹ The new NMI survey found

that only one-quarter to one-third of consumer segments with the highest rates of obesity -- Magic Bullets and Eat, Drink & Be Merrys (see Figure 6 for a description of each segment) -- read nutrition labels, compared to 71% of the healthiest consumers (i.e., Well Beings) with the lowest BMIs (see Figure 4).





THE FOOD & BEVERAGE INDUSTRY RESPONSE TO OVERCONSUMPTION AND OBESITY

In response to overconsumption and growing rates of obesity, the food and beverage industry has made progress in reducing added sugar, calories, saturated fats, sodium, and portion sizes, as part of industry groups and coalitions focused on the problem. Individual companies have also addressed this issue on their own, often as part of a sustainability strategy.

In one early (2007) initiative, members of the Healthy Weight Commitment Foundation (HWCF), which included 16 leading consumer packaged goods (CPG) companies, pledged to sell a collective 1 trillion fewer calories in the United States by 2012 and 1.5 trillion less by 2015. These companies exceeded their goals and sold 6.4 trillion fewer calories by 2012, a 10.6% decrease from 2007. This huge elimination of calories from the food supply resulted in an average reduction of 78 calories per person per day.³¹

A decade ago, the American Beverage Association, which includes soft drink companies such as The Coca-Cola Company, Keurig Dr Pepper, and PepsiCo, began taking significant actions to reduce added sugar that consumers obtain from some of their products, through its Beverage Calories Initiative. In 2014, the companies committed to reducing beverage calories per person nationally by 20% by 2025 in an initiative undertaken in partnership with the Alliance for a Healthier Generation. The strategy is to help consumers reduce the added sugar from beverages by offering more choices with less sugar.32 According to Independent evaluator Keybridge LLC, as of 2022, calorie consumption decreased by 7.7%.33 Concurrently, per person volume sales of fullcalorie soda, which is where people get most of their beverage calories, declined by 8.5%.

Another successful industry-wide program is the confectionery industry's Always A Treat Initiative, which emphasizes portion guidance and transparency. In 2017, the National Confectioners Association (NCA) brought together the leading chocolate and candy companies -- including Mars Wrigley, Ferrero, Ferrara Candy Company, Lindt, Ghirardelli Chocolate, and Russell Stover Chocolates -- in a landmark commitment to help consumers manage their sugar intake. In collaboration with Partnership for a Healthier America, the companies set and

achieved an ambitious, five-year goal to provide more transparency, create more portion guidance options in innovative packaging, and educate consumers about how chocolate and candy can be consumed as an occasional treat. At the completion of the commitment period ending December 31, 2021, half (49.8%) of individually wrapped packs were at 200 calories or less. ³⁴ Less than a year later, in September of 2022, the NCA reported that 85% of candy was sold in packages containing 200 calories or less, and nearly all candy packages included front-of-package calorie labeling. ³⁵

Along with their commitments to reduce portion sizes as coalition members and industry groups, individual companies have acted on their own to trim portion sizes, sometimes as part of their sustainability efforts. Some case examples include:

Mondelēz International has a 2025 goal to deliver up to 100% of net revenues through Mindful Portion Snacks, those in either individually wrapped portion serving sizes (≤200 calories) or with mindful portion labeling on pack.³⁶ Their 2023 global study of snacking trends found that 67% of consumers were looking for snacks that are portion-controlled.³⁷ Three-quarters of their respondents said they were looking for visual guides on food product labels that help them understand what a portion size is.

Unilever's "Positive Nutrition" initiative focuses on creating products that are healthier with less salt, sugar, and calories. The company has been developing smaller-sized ice cream options for its Magnum, Cornetto, Ben & Jerry's, Breyers, and other product lines to encourage portion control and reduce the volume of added sugar consumed as a result.³⁸ One of Unilever's goals is to have 95% of its packaged ice cream products contain no more than 22 grams of total sugar per serving by 2025. That goal was achieved for 89% of its ice cream by 2022.³⁹

Ferrero over the past few years has made a commitment to decrease the amount of added sugar and saturated fats in its products to control their serving sizes. In fiscal year 2022/23, approximately 86% of Ferrero's marketed products had a serving size of 130 calories or less; around 66% were marketed

Figure 5. Three major packaged goods industry initiatives



in a serving size of 100 calories or less; and 89% had a low glycemic index, meaning these treats did not produce a spike in blood sugar. Ferrero's Sustainability Report 2023 notes: "One of our main goals is to respect consumers' choices, by providing clear information to help them make responsible consumption choices."

Hershey has made some bold moves into the better-for-you candy market, beginning in 2021. The company is devoting R&D efforts to developing technologies to reduce added sugar without compromising taste, and has introduced Zero Sugar items in both its Hershey's and Reese's products. Hershey has also engaged with companies with a big presence in the alternative sugars space. In 2021

The Hershey Company acquired Lily's, an increasingly popular confectioner that uses stevia and natural alternatives rather than refined or processed sugar. Hershey has also partnered with ASR Group to invest in start-up Bonumose Inc, maker of plant-based ingredients and rare and natural sugars.⁴¹

Mars is working on ensuring that its Mars Snacking brands contain no more than 250 calories per serving, and today over half of its global portfolio contains no more than 200 calories per single serving. Its Snickers and Mars bars are now available in 100-calorie portion sizes and with variations that have more protein and less sugar. In 2023 Mars also acquired TrüFrü, which makes frozen desserts with less than 100 calories per serving. 42

NEW CONSUMER INSIGHTS ON CANDY

In summer 2023, Georgetown University's Portion Balance Coalition (PBC), in concert with research firm NMI and using its proprietary Health and Wellness Trends Database, fielded a groundbreaking consumer segmentation study that uncovered reported consumer attitudes and purchase trends on portions across multiple food and beverage categories, including chocolate and non-chocolate candy and other indulgent products. NMI canvassed 1,005 General Population respondents and grouped them into five distinct health & wellness consumer segments (See Figure 6 below).

Figure 6. NMI's five health & wellness consumer segments.43

Tigal C C. Mins live Health & V	vellness consumer segments.				
WELL BEINGS°	FENCE SITTERS°	FOOD ACTIVES°	MAGIC BULLETS°	EAT, DRINK & BE MERRYS®	
28%	26%	12%	22%	12%	
Most health pro-active	"Wannabe" healthy	Mainstream healthy	Lack commitment to healthy	Least health active	
First adopters	Highly aspirational	Basics, balance and	lifestyle	Little health motivation	
Use many health	Price-	control	Quick, easy solutions		
modalities	sensitive	Desire inherently healthy foods	Health managers		

Findings from this latest report seconded an earlier study that showed four of the five consumer segments purchased candy equally as frequently, except for a dip among people exhibiting high rates of obesity (the "Eat, Drink & Be Merrys.")

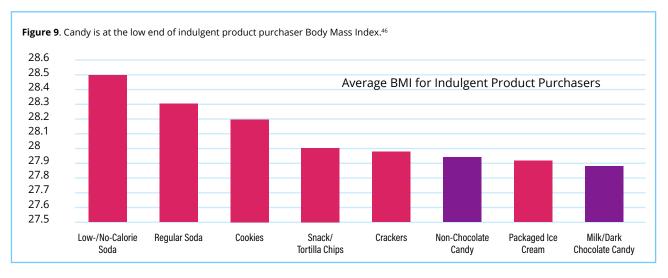
Figure 7. All consumer segments except one purchase candy at similar frequencies. Candy is bought less frequently by a high BMI cohort.44 **Question**: Please indicate **PURCHASE INDEX (=100 for General Population)** which of the following products or categories you have purchased in the past Well Food Eat, Drink & **Fence Sitters Magic Bullets** 60 days **Beings Actives Be Merrys Total Candy** 101 107 103 100 83* Milk/Dark 106 108 100 101 78* **Chocolate Candy** Non-Chocolate 103 87* 98 116 99 Candy *Statistically significant at 95% confidence interval

Perhaps more revealing was the observation that the healthiest of the healthiest consumer cohort actually purchase candy at higher rates than other consumer segments.

Figure 8. The healthiest consumers purchase candy more frequently. ⁴⁵							
Question : Please indicate which of the following products or categories	PURCHASE INDEX (=100 for General Population)						
you have purchased in the past 60 days	Well Beings	Well Beings Leaders**	Food Actives	Fence Sitters	Magic Bullets	Eat, Drink & Be Merrys	
Total Candy	101	126*	107	103	100	83*	
Milk/Dark Chocolate Candy	106	132*	108	100	101	78*	
Non-Chocolate Candy	98	134*	116	99	103	87*	

*Statistically significant at 95% confidence interval **Frequent use of and commitment to organic

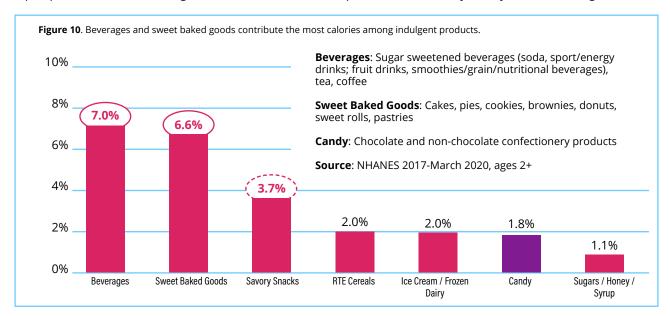
The survey also provides an illuminating look at the types of indulgent foods that people with various BMIs choose to purchase. It showed that consumers buying low- and no-calorie soda, cookies, and snack/tortilla chips had the highest average BMIs, while consumers purchasing chocolate candy had the lowest BMI among indulgent product consumers.



Contribution to Caloric Consumption

Along with the recent NMI findings, updated data from the National Health and Nutrition Examination Survey (NHANES), a national survey designed to assess the health and nutritional status of adults and children in the United States, provides some new perspectives on which indulgent foods are consumed

the most. NHANES updated its information for the period 2017 – March 2020,⁴⁷ which was paused during the pandemic. The latest information shows that beverages and sweet baked goods are the biggest contributors to overall caloric intake among indulgent products, followed by savory snacks. (See Figure 10)



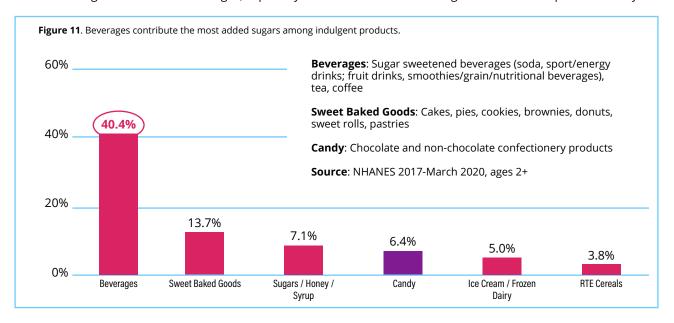
Calories consumed from beverages declined noticeably vs the previous NHANES reporting period due, in part, to the American Beverage Association Beverage Calories Initiative, which, as mentioned earlier, yielded a 7.7% decline per person per day

from 2014 through 2021. Even so, candy was found to contribute only 1.8% of calories, one-quarter the contribution of beverages. This equates to an average of about 40 calories per day.

Contribution to Added Sugar Intake

NHANES data also highlights that the primary source of added sugar comes from beverages, especially

sugar-sweetened beverages, which contribute over 6 times the added sugar in the diet compared to candy.⁴⁸



Consumption Amounts

The volume of soft drinks consumed annually per person is unparalleled, with Americans quaffing 36.4 gallons per year.⁴⁹ As shown in Figure 12, for indulgent foods, the most consumed indulgent product category

was sweet baked goods, at 27.4 pounds per person per year. Annual consumption of chocolate and non-chocolate candy are at significantly lower levels per capita.⁵⁰

Figure 12. Consumers eat significantly more sweet baked goods than other indulgent foods. **Pounds per Person per Year** Sweet Baked Goods: Cakes, pies, cookies, brownies, donuts, sweet rolls, pastries Savory Snacks: Potato chips, tortilla/corn/other chips, popcorn, pretzels/snack mix Source: NHANES 2017-March 2020, ages 2+ 40 27.4 20 15.3 12.9 4.0 4.0 3.2 0 **Sweet Baked Goods** Ice Cream / Frozen Crackers Savory Snacks **Chocolate Candy** Non-Chocolate Candy Dairy



THE GROWING IMPORTANCE OF PORTION SIZES TO CONSUMERS

New research is reporting that consumers are becoming more mindful of the portions they consume, even as they continue to enjoy their snacks and indulgent products. The Mondelēz International 2023 State of Snacking Report noted that nearly 9 in 10 consumers worldwide say they snack daily, and a third enjoy three or more snacks each day. More than two-thirds of consumers said that portion size was an important consideration. And chocolate continues to be a treasured indulgence, with 81% of consumers enjoying it at least once a month and 82% agreeing with the statement that "chocolate is good for the soul."51

A 2022 Portion Balance Coalition survey of 1,000 adults found that 58% of respondents said they are eating smaller portions compared to before the pandemic as a way to help manage their weight, and 42% said that eating appropriate portion sizes at each meal or snack is an important component of healthy eating for them. To help keep portions in check, the survey reported that half of consumers choose more portion-controlled snacks, such as 100-calorie packs. Likewise, 45% of respondents buy smaller packages of food items to help manage how much they eat, and 44% do the same for beverages. This mindfulness has increased since the period before the pandemic, when 38% purchased smaller packages of food and 40% purchased smaller packages of beverages to help limit their intake. 52

Candy is one food category that consumers appear to recognize as an indulgent treat, but one to be enjoyed in smaller volumes. According to the National Confectioners Association's 2024 State of Treating Report, 89% of consumers agree that it is important or somewhat important for chocolate and candy brands to offer portion size options.⁵³

Several assessments have zeroed in on portion management as a viable strategy to help people manage their weight. The seminal 2014 McKinsey Global Institute (MGI) report on obesity recommended that portion management is the best strategy to improve long-term health and to reduce obesity rates by saving the most disability-adjusted life years (DALYs), that is, the loss of the equivalent of one year of full health. Portion control was identified to have a higher impact on obesity in a cost-effective way compared to other interventions, such as education, taxes, or package labeling. Strategies like reducing portion sizes of packaged foods and fast foods, MGI points out, "reset the default and make healthy behavior easier and more normal, thereby relying less on individual willpower."54

Along with being the highest-impact intervention, the report pointed out that reducing portions is also more cost-effective for food manufacturers and restaurants because it does not require extensive reformulation.



The Power of Portions

A new study titled *The Power of Portions* published by the Portion Balance Coalition at Georgetown University points out that many consumers are now considering portion sizes in their purchasing decisions. The research found that portions influenced purchasing decisions as or more frequently than "offender ingredients" such as added sugars and sodium. (See Figure 13)

This trend applies to candy users who are consuming smaller-sized portions of snacks and candy bars.
Roughly half of candy consumers are practicing

portion balance, as shown in Figure 14 below. Well Beings and Fence Sitters are particularly purchasing smaller sizes to control how much they eat and/or to eat healthier.

To help manage their weight, candy users are choosing more options that are "smaller and better." As shown in Figure 15, eating smaller portions and consuming less added sugar, sodium, saturated fat and/or calories are among the practices being adopted by one-half to two-thirds of candy users.

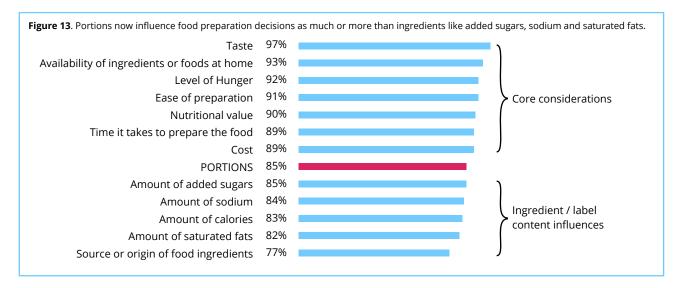
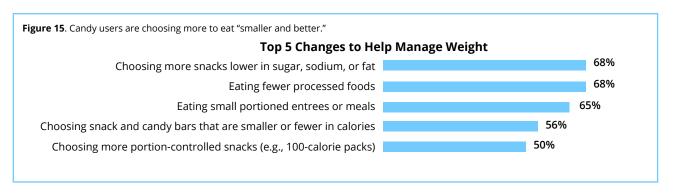


Figure 14. Half of candy consumers are practicing portion balance behaviors; Well Beings and Fence Sitters even more so.						
Statement % respondents indicating agreement or disagreement with the statements (Top 2 Box)	Chocolate / Non-Chocolate Candy Users	Well Beings	Fence Sitters			
I buy single serve entrees/foods/snacks because they are a convenient way for me to eat healthier by portioning my food and curbing hunger during my busy day	51%	59%	57%			
I buy multi-packages with predetermined portion sizes (e.g., rice, chips, candy, cookies) to control the amount I eat	48%	58%	50%			
I buy smaller packages or single serve packages of food items to help manage how much to eat	40%	45%	48%			



CONCLUSIONS

- To combat rising rates of obesity, governments and regulatory bodies globally are continuing their efforts to ban and/or restrict the consumption of ultra-processed, indulgent products, such as through the use of interpretive warning labels.
 Evidence to date suggests that this approach has not proven effective in arresting and/or reversing obesity rates.
- Consumer packaged goods companies have spearheaded efforts to reduce portion sizes and lower added sugars. The National Confectioners Association's Always A Treat Initiative, the American Beverage Association's Beverage Calories Initiative and Mondelez' Mindful Portions Snacks pledge are examples of proactive efforts to improve the sizing and nutritional profile of their products.
- Consumer segmentation data shows that a broad spectrum of consumers – from the healthiest to those with obesity – purchase chocolate and non-chocolate candy at similar frequencies. One high BMI segment – the Eat, Drink & Be Merrys – actually purchases less candy than the other cohorts, while the "healthiest of the healthiest" consumer cohort purchases candy at the highest index.
- Those who purchase chocolate and candy exhibit lower body mass indexes (BMIs) than those who buy other ultra-processed indulgent foods and beverages. Ice cream is comparable.
- Among ultra-processed indulgent products, candy contributes the least to caloric, added sugar, and food quantity intake.
- Half of candy users are pursuing portion balance behaviors.

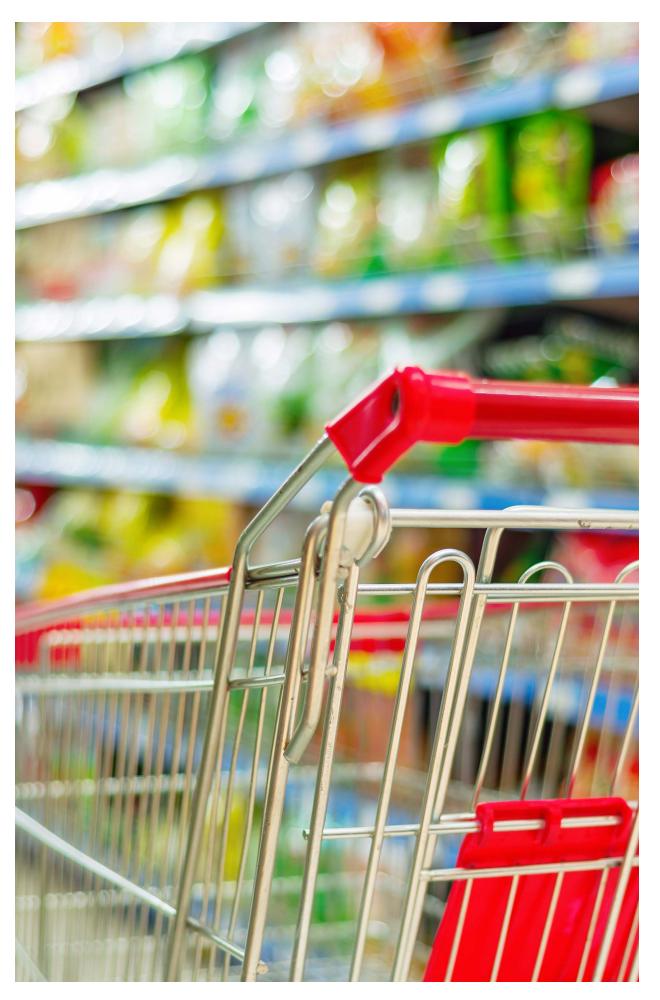
IMPLICATIONS FOR POLICY

Public health policies would benefit from applying a more targeted approach that focuses on the end goal: arresting and reversing obesity rates. Despite over a decade of attempts to limit consumption of ultra-processed "junk foods" via interpretive warning labels on packaging, taxing and/or limiting access at grocery checkouts, none have proven to be effective in achieving this goal. This report demonstrates that programs designed to address the needs and purchase behaviors of specific consumer segments would be more effective than applying a "one-sizefits-all" approach. In addition, prioritizing initiatives that result in the manufacture and consumption of smaller portions would require the least change by consumers, increasing their adoption and financial viability.

Policymakers and food industries should take the following into account:

- Candy behaves differently from other ultraprocessed indulgent products. New NMI and NHANES data re-confirm that candy is different and should not be lumped together with other indulgent products. Consumers do not overconsume chocolate and candy, so targeting these foods will not impact obesity. An approach that focuses on product categories that consumers with the highest BMIs eat and drink the most will be more effective.
- Consider alternative front-of-pack labeling schemes. People with the highest BMIs read nutrition labels the least, and the interpretive

- labels introduced in other countries have not led to a corresponding arresting and reversal of high obesity rates. The FDA should consider other FOP labeling schemes that suggest they are effective, such as those that provide more positive messaging or that highlight items that are "good, better or best" nutritionally, such as the Guiding Stars labeling from Ahold Delhaize USA.
- Make more portion reduction pledges. More CPG companies and restaurant chains should adopt programs such as Always A Treat, the Beverage Calories Initiative and Mindful Portions, especially since over half of consumers (Well Beings and Fence Sitters) have been shown to favor using smaller and/or pre-portioned products to manage their eating habits. Delivering smaller sizes of treats are also a way for confectionary and snack companies to service emerging demand by consumers adopting the new hunger-suppressing GLP-1 drugs.
- Policymakers must consider consumer attitudes and purchase behavior thoroughly in order to make sound decisions. Prescriptions must take into account that few with the highest rates of overweight/obesity are reading nutrition information on packaging and that all ultraprocessed indulgent products, especially chocolate and candy, do not have the same impact on obesity. Our findings suggest that there is a huge opportunity to leverage smaller portions or "treats" to help reduce overconsumption.



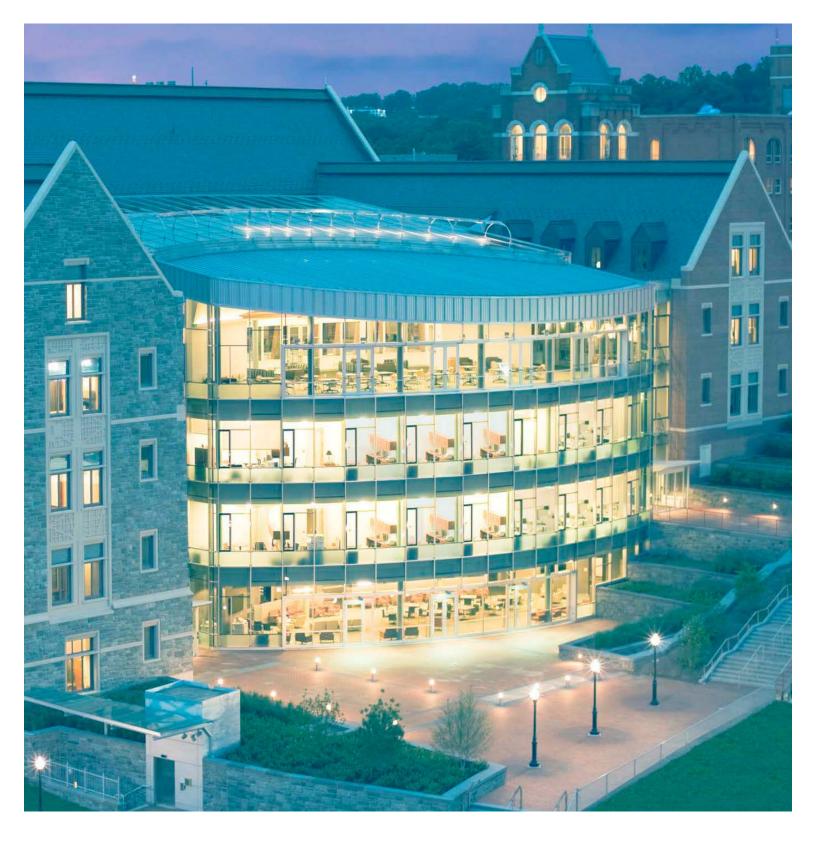
ENDNOTES

- 1 Georgetown University. (2022, September). *All Indulgent Products Are Not Created Equal*. https://businessforimpact.georgetown.edu/wp-content/uploads/2022/09/All-Indulgent-Products-Are-Not-Created-Equal.pdf
- 2 White House Conference on Hunger, Nutrition, and Health (2022, September). *Ending Hunger and Reducing Diet-Related Diseases and Disparities*. https://health.gov/our-work/nutrition-physical-activity/white-house-conference-hunger-nutrition-and-health
- 3 Brodwin, E. and Lee, S. (2016, April). Something we have no control over could be playing a huge role in weight gain. *Business Insider*. https://www.businessinsider.com/how-much-have-food-portions-increased-2016-4
- 4 Rolls, B., Smethers, A. and Zuraikat, F. (2019, May). Potential moderators of the portion size effect. *Physiology and Behavior*. https://www.sciencedirect.com/science/article/abs/pii/50031938418311417?via%3Dihub
- 5 Nestle, M. and Young, R. (2011, October) The Contribution of Expanding Portion Sizes to the US Obesity Epidemic. *American Journal of Public Health*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447051/_
- 6 Centers for Disease Control and Prevention. (2023, September). *Adult Obesity Prevalence Remains High; Support for Prevention and Treatment Needed*. https://www.cdc.gov/media/releases/2023/p0922-adult-obesity.html
- 7 Organization for Economic Cooperation and Development (OECD) Health at a Glance 2023 report. https://www.oecd-ilibrary.org/docserver/cba592fb-en.f?expires=1723378 786&id=id&accname=guest&checksum=4575B24A77C7EE-497A22615F59774E42.
- 8 Centers for Disease Control and Prevention. *Childhood Obesity Facts*. https://www.cdc.gov/obesity/php/data-research/childhood-obesity-facts.html
- 9 USDA Economic Research Service. *Adult Obesity Prevalence Increased During the First Year of the COVID-19 Pandemic*. https://www.ers.usda.gov/amber-waves/2022/july/adult-obesity-prevalence-increased-during-the-first-year-of-the-covid-19-pandemic/
- 10 International Food Information Council Consumer Research. (2020, September). *Eating and Shopping During a Global Pandemic*. https://foodinsight.org/wp-content/up-loads/2020/09/EPAL-Survey.September-2020.pdf
- 11 American Psychological Association. (2021, March). *One year later, a new wave of pandemic health concerns.* https://www.apa.org/news/press/releases/stress/2021/one-year-pandemic-stress

- 12 Centers for Disease Control and Prevention. *Adult Obesity Prevalence*. https://www.cdc.gov/obesity/php/data-research/adult-obesity-prevalence-maps.html
- 13 Centers for Disease Control. *Get the Facts: Added Sugars*. https://www.cdc.gov/nutrition/php/data-research/added-sugars.html
- 14 The Sugar Association. *Sources of Added Sugar*. https://www.sugar.org/diet/sources-of-added-sugars/
- 15 World Health Organization. (2015, March). *WHO calls on countries to reduce sugars intake among adults and children*. https://www.who.int/news/item/04-03-2015-who-calls-on-countries-to-reduce-sugars-intake-among-adults-and-children
- 16 USDA. *Dietary Guidelines for Americans, 2020-2025*. <a href="https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_Guidelines.gov/sites/default/files/2020-12/Dietary_guidelines.gov/sites/default/files/2020-12/Dietary_guidelines.gov/sites/default/files/2020-12/Dietary_guidelines.gov/sites/default/files/2020-12/Dietary_guidelines.gov/sites/default/files/2020-12/Dietary_guidelines.gov/sites/default/files/2020-12/Dietary_guidelines.gov/sites/default/files/2020-12/Dietary_guidelines.gov/sites/default/files/default/files/2020-12/Dietary_guidelines.gov/sites/default/files
- 17 American Heart Association. *Added Sugars*. https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/sugar/added-sugars
- 18 Centers for Disease Control and Prevention. *Get the Facts: Added Sugars.* https://www.cdc.gov/nutrition/php/data-re-search/added-sugars.html?CDC_AAref_Val=https://www.cdc.gov/nutrition/data-statistics/added-sugars.html
- 19 McAllister, T. (2023, September). CA Cities Say No More Candy, Chips in Grocery Store Checkout Aisles. https://patch.com/california/across-ca/ca-cities-say-no-more-candy-chips-grocery-store-checkout-aisles
- 20 County Health Rankings & Roadmaps, County Demographics 2024. https://www.countyhealthrankings.org/health-data/california/alameda?year=2024
- 21 Price, A. (2019, August 24). Do Soda Taxes Work? *Berkeley Public Health*. https://publichealth.berkeley.edu/news-media/research-highlights/do-soda-taxes-work/
- 22 City of Perris. *Perris Passes Ordinance for Healthier Options at Checkout Lanes*, June 7, 2023. https://www.cityofperris.org/ Home/Components/News/News/150/15
- 23 The White House National Strategy on Hunger, Nutrition, and Health. *Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health*. Op. Cit.
- 24 Official Journal of the Republic of Chile. (2015, April). *Decree No. 13 of the Ministry of Health*.
- 25 Organisation for Economic Co-operation and Development. *Overweight or obese population*. https://data.oecd.org/healthrisk/overweight-or-obese-population.htm
- 26 National Food Policy Conference (2023, September). What's in a Label? The Fight Over Mandatory Front-of-Package Labeling Requirements. http://www.consumerexposne.com/pdf/cfa-nfpc-fop-session.pdf

- 27 Prensa Latina. (May 2024). *Over half of Chilean students suffer from overweight and obesity*. https://www.plenglish.com/news/2024/05/02/over-half-of-chilean-students-suffer-from-overweight-and-obesity/
- 28 von Hippel PT, Bogolasky Fliman F. (2024) Did child obesity decline after 2016 food regulations in Chile? *Pan American Journal of Public Health*. https://iris.paho.org/bitstream/handle/10665.2/59321/v48e162024.pdf
- 29 Portion Balance Coalition, *The Power of Portions*, 2024. https://msb.georgetown.edu/wp-content/uploads/2024/03/POWER-OF-PORTIONSdigital-1.pdf
- 30 Ibid.
- 31 Ng, S., Slining, M., and Popkin, B. (2014, October). The Healthy Weight Commitment Foundation Pledge: Calories Sold from U.S. Consumer Packaged Goods, 2007-2012. *American Journal of Preventive Medicine*. https://www.sciencedirect.com/science/article/pii/S0749379714002487
- 32 American Beverage Association. *Promoting Balanced Lifestyles*. https://www.americanbeverage.org/initiatives-advocacy/promotion-balanced-lifestyles/#:~:text=The%20Coca%2DCola%20Company%2C%20Keurig,sold%20today%20have%20zero%20sugar
- 33 American Beverage Association. (2024). *Beverage Calories Initiative: Report on 2022 Progress Towards the National Calorie Goal*. https://aba-bigtree.s3.amazonaws.com/files/resources/bci-national-report-on-2022-progress.pdf
- 34 National Confectioners Association, *Always a Treat Initiative*. https://alwaysatreat.com/initiative/
- 35 Reiley, L. (October 2022). It's not a trick: your Halloween treats are getting smaller. *The Washington Post*. https://www.washingtonpost.com/business/2022/10/21/halloween-candy-smaller-shrinkflation/
- 36 Mondelez International. *Snacking More Mindfully*. https://www.mondelezinternational.com/snacking-made-right/mindful-snacking/
- 37 Mondelez International. (2023). *The Fifth Annual State of Snacking Report*. https://www.mondelezinternational.com/stateofsnacking/
- 38 Unilever. *Responsible Treats*. https://www.unilever.com/planet-and-society/positive-nutrition/responsible-treats/
- 39 Unilever. *Improving our offerings for healthier and more sustainable diets.* https://www.unilever.com/sustainabili-ty/positive-nutrition/improving-our-offering-for-healthier-and-more-sustainable-diets/

- 40 Ferrero. (2023). *Sustainability Report*. https://www.ferre-rosustainability.com/int/sites/ferrerosustainability_int/files/homepage-annual-report/2024-05/ferrero_csr_final_28524.pdf
- 41 Bonumose. (2021) *Hershey Sets Sights on Being Better-for-You Confection*. https://bonumose.com/wp-content/up-loads/2021/02/Hershey-Sets-Sights.pdf
- 42 Mars. *Nourishing Wellbeing in Our Marketplaces*. https://www.mars.com/sustainability-plan/nourishing-wellbeing/marketplace-access
- 43 Portion Balance Coalition. *The Power of Portions*, 2024. https://msb.georgetown.edu/wp-content/uploads/2024/03/POWER-OF-PORTIONSdigital-1.pdf
- 44 Ibid.
- 45 Ibid.
- 46 Ibid.
- 47 National Health and Nutrition Examination Survey (NHANES) 2017-March 2020, ages 2⁺ https://wwwn.cdc.gov/nchs/nhanes/search/datapage.aspx?Component=Dietary&Cycle=2017-2020
- 48 Ibid.
- 49 Statista Market Insights. March 2024. Soft Drinks United States. https://www.statista.com/outlook/cmo/non-alcoholic-drinks/soft-drinks/united-states#:~:text=Volume%2C%20 out%2Dof%2Dhome,to%20137.60L%20in%202024
- 50 NHANES, Op. Cit
- 51 Mondelez International, 2023 State of Snacking Report, https://www.mondelezinternational.com/assets/stateofsnacking/2023/2023_MDLZ_stateofsnacking_report_global.pdf
- 52 Portion Balance Coalition and the Natural Marketing Institute. (2022, November). *Portion Balance Attitude and Action Tracking*. https://static1.squarespace.com/static/60b79a2f98654d062e0792d6/t/63c0647e-3c391510f9e0cf6c/1673553025358/NMI+Portions+Attitude+%26+Behavior+Research_rev+web.pdf
- 53 National Confectioners Association. *State of Treating 2024*. https://candyusa.com/state-of-treating-2024/
- 54 McKinsey Global Institute (2014). *Overcoming Obesity: An Initial Economic Analysis*. https://www.mckinsey.com/~/media/mckinsey/business%20functions/economic%20studies%20temp/our%20insights/how%20the%20world%20could%20better%20fight%20obesity/mgi_overcoming_obesity_executive_summary.pdf



Published by Business for Impact at Georgetown University's McDonough School of Business

September 2024

Business for Impact

GEORGETOWN UNIVERSITY McDonough School of Business