

Selling Out Kids' Health:

10 Years of Failure from Restaurants on Kids' Meals



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Children consume roughly **25 percent** of their total calories from fast food and other restaurants.²

Executive Summary

Eating out is common in the United States, with households with children doing so between four and five times a week, on average.¹

Children (defined as individuals between the age of two and 19) consume roughly 25 percent of their total calories from fast food and other restaurants.² A 2014 online survey found that only 34.9 percent of parents of five-to-12-year-olds could correctly estimate the recommended

per-meal calorie range for a child's meal established by the *2015-2020 Dietary Guidelines for Americans*.³ Healthier restaurant children's meals therefore assist families' efforts to support healthy eating for their children.

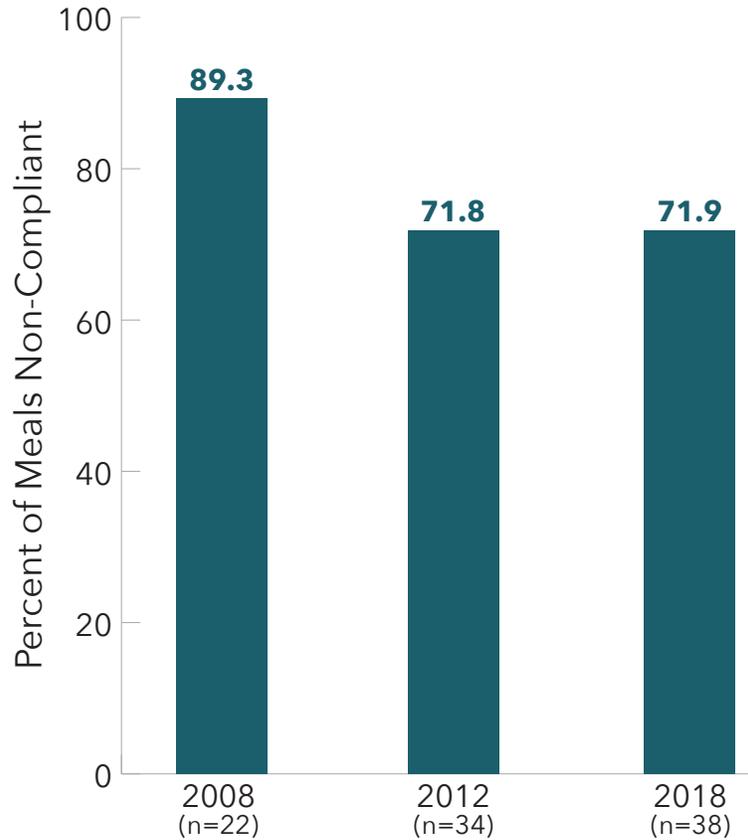
This study investigates nutrition standard compliance of children's meals at the largest restaurant chains in the United States. We examined children's menu items and meals at the restaurant chains that offered kids' meals that were among the 50 largest chain restaurants by revenue in the United States in 2008, 2012, and 2018.^{4,5,6} We assessed all possible children's meal combinations (beverage, side, entrée), for compliance with a set of nutrition standards for calories, total fat, saturated fat plus trans fat, and sodium adapted from Center for Science in the Public Interest's *Guidelines for Responsible Food Marketing to Children*.⁷

From 2008 to 2018, the number of top 50 restaurant chains that offered children's meals increased from 22 to 38. The number of meal combinations (the number of unique meals that can be created from combining an entrée, side item, and beverage) available at these restaurants has increased dramatically, from 1,662 meal combinations in 2008 to 9,556 meal combinations in 2018. The number of restaurant chains that offered sugary drinks with kids' meals decreased from 95.5 percent in 2008 to 65.8 percent in 2018 - the majority of chains still offering sugary drinks in the most recent wave of data collection.

The percentage of kids' meal combinations (weighted by the number of outlets for each chain) that were not compliant with nutrition standards was 71.9% in 2018, compared to 71.8% in 2012 and 89.3% in 2008 (see Figure 1). The proportion of meals that met the calorie standard increased between 2008 and 2012, but there was little change between 2012 and 2018, and the majority of meals still fail to meet this standard (60.3% in 2018). More meals failed to meet the total fat standard in 2018 (38.1%) compared to 2008 and 2012, but this standard is the least commonly violated and has been de-emphasized in recent dietary guidelines. The proportion of meals that failed to meet the saturated fat plus trans fat standard increased in 2018 to 40.0 percent from 31.6 percent in 2012. The same proportion of meals failed to meet the sodium standard in 2018 and 2012 (45.0%), but this is an improvement over 2008. Participants in the National Restaurant Association's Kids LiveWell program in 2018 fared worse than non-participants; 84.9 percent of meals from participating restaurants were non-compliant compared to 66.6 percent of non-participating restaurants.



FIGURE 1. PERCENT OF MEALS NOT COMPLIANT WITH NUTRITION STANDARDS AT THE TOP 50 U.S. RESTAURANT CHAINS BY REVENUE WITH CHILDREN'S MEALS BY WAVE*



*Weighted by the number of outlets for each chain

Four chains (Subway, McDonald's, Burger King, and Wendy's) were among the five largest chains by number of outlets each wave of data collection. These chains have considerably lower percentages of meals that failed to meet nutrition standards compared to the remaining chains examined. Further analysis revealed that these four large chains have improved in multiple nutrient areas and that little has changed at the remaining restaurants. While the percentage of meals that failed to meet nutrition standards among these four chains fell from 80.7 percent in 2008 to 44.8 percent in 2018, the percentage of meals that failed to meet standards at the remaining chains remained stagnant (99.3% in 2008 to 97.6% in 2018).

Our findings indicate that the same proportion of kids' meals were non-compliant in 2018 and in 2012. A few large chains have successfully and comprehensively improved their restaurant children's meals over the past decade, but other chains' kids' menus remain essentially unchanged and largely non-compliant.

In order for children and families to have healthy meal options, restaurants should eliminate soft drinks and other sugary beverages from their children's menus, make non-fried vegetables or fruit the default side dish with every children's meal, and market only healthy options to children through all marketing approaches. In addition, states and localities should continue to pass healthy kids' meal policies to require more nutritious beverages and to improve the nutrition of children's meals overall.

A few large chains have successfully and comprehensively improved their restaurant children's meals over the past decade, but other chains' kids' menus remain essentially **unchanged and largely non-compliant.**

Introduction

Households with children in the United States eat out between four to five times a week on average.⁸ Many restaurants specifically market menu items to children, including through “kids’ meals.” Forty-six percent of parents of children ages six to eleven report ordering a kids’ meal for their children at their last restaurant visit; the proportion for children under age six is higher, at 64 percent.⁹ Children (defined as individuals under the age of 19) consume 25 percent of their total calories from fast food and other restaurants.¹⁰

Forty-six percent of parents of children ages six to eleven report ordering a kids’ meal for their children at their last restaurant visit; the proportion for children under age six is higher, at **64 percent**.

Restaurant foods contain more calories, saturated fats, and sodium, and are of poorer nutritional quality overall than foods prepared at home.¹¹ Further, only about one-third (34.9%) of parents with children between the ages of five and 12 years were able to accurately estimate the recommended calorie range for a child’s restaurant meal established by the *2015-2020 Dietary Guidelines for Americans*.¹²

This study investigates nutrition standard compliance of children’s meals at the largest restaurant chains in the United States. It also summarizes changes in compliance over three study waves: 2008, 2012, and 2018.

Methodsⁱ

We examined items and meals found on children’s menus or in children’s sections of the menu at the 50 largest chain restaurants by revenue in the United States. In our previous surveys (2008 and 2012), we used the Reed Elsevier R&I Top 400 Chain Restaurants list of top restaurant chains, but the Elsevier list has been discontinued.^{13,14} Consequently, we used the Nation’s Restaurant News Top 200 list to identify the top chains for 2018 data collection.¹⁵

Kids’ meal and nutrition information for the chains with children’s menus was obtained in May-June 2018; those without

ⁱThe present report uses Methods different from earlier CSPI reports on this topic. It includes reanalysis of the data in previous reports, and so the previous reports have been removed from CSPI’s website.

such menus were excluded from the study. Nutrition information was located during this time for all but one restaurant, the Cheesecake Factory, which provided its nutrition information in November of 2018. Updated information on specific items when information was incomplete or missing (fewer than 20 individual items) was also collected in November of 2018. Due to the implementation of the national menu labeling law in 2018, the number of chains with and the amount of available nutrition information increased, with most nutrition information available for all restaurants in 2018.¹⁶ The primary method for collecting meal and nutritional information was a scan of the restaurant's website. If a children's menu was not available online, it was obtained by contacting the national headquarters' customer service via phone. For the small minority of items for which nutrition information was not listed on the menu, we utilized information from the U.S. Department of Agriculture Food Composition Databases.¹⁷

Each meal combination in each wave of data collection was assessed against a set of nutrition standards (see Table 1) adapted from Center for Science in the Public Interest's *Guidelines for Responsible Food Marketing to Children*.¹⁸ These guidelines were based on the National Alliance for Nutrition and Activity's *Model Local School Wellness Policies on Physical Activity and Nutrition*, which were developed and supported by more than 50 health, nutrition, and education organizations and derived from key nutrition recommendations in the *Dietary Guidelines for Americans*.^{19,20} They were developed to assess the quality of meals marketed to children 4-8 years of age because such children fall within the pre-school through elementary school age range to which kids' meals are most commonly advertised.²¹ We utilized these standards in order to be consistent with the past two data collection waves.

About one-third of parents with children between the ages of **five and 12** years were able to accurately estimate the **recommended calorie range for a child's restaurant meal** established by the 2015-2020 *Dietary Guidelines for Americans*.¹²

TABLE 1. NUTRITION STANDARDS FOR ASSESSING CHILDREN'S MEALS

| NUTRIENT | STANDARDS |
|--|---|
| Calories | No more than 430 calories ^a |
| Fat | No more than 35% of calories ^b |
| Saturated plus trans fat | No more than 10% of calories ^b |
| Sodium | No more than 770 mg ^c |
| Beverages assessed as being of poor nutritional quality:^d | |
| <ul style="list-style-type: none"> • Soft drinks; sports drinks; and sweetened iced teas • Fruit-based drinks that contain less than 50% real fruit juice or that contain added sweeteners, both caloric and non-nutritive • Beverages containing caffeine, excluding low-fat or fat-free chocolate milk (which contain trivial amounts of caffeine) • High-fat (whole or 2%) milk | |

a. Approximately one-third of the daily requirements for a child 4-8 years old, based on Dietary Guidelines for Americans, 2005²²

b. Based on Dietary Guidelines for Americans, 2005²³

c. Based on one-third of the Dietary Reference Intakes (DRI) Tolerable Upper (daily) Intake Level (UL) for sodium for a child 9-13 years old²⁴

d. If the beverage that is part of a meal is assessed as poor nutritional quality, then the entire meal is considered of poor nutritional quality

Compliance with these standards was assessed for all possible children's meal combinations. Typically, a combination consisted of an entree, side item, and beverage from the restaurant's children's menu. Meal combinations were determined based on how the restaurant described the meal on the website. If this was unavailable online, meal combinations were determined by how they were described on a physical restaurant menu, which was obtained by a phone call to one of the restaurant locations or visit to a physical restaurant location. For example, a hamburger, fries, and soft drink were considered one possible combination; a hamburger, fries, and low-fat milk were considered another combination.

Beverages of a similar type were counted once based on the beverage quality standards in Table 1. For example, all soft drinks, including different flavors, brands, and varieties (diet, caffeine free, etc.), were treated as one beverage option, as were all high-fat milks (whole and 2%). Multiple flavors or varieties of sauces and salad dressings were averaged and included in meals when listed on the menu or pictured, such as those included with chicken nuggets/ strips, salads, or dipping vegetables. If a meal combination failed to meet at least one nutrition standard, the whole meal was determined to be non-compliant.

Some chains did not include a beverage with its kids' meals and for those compliance was assessed without beverages. Similarly, some chains did not offer sides, and thus compliance was assessed without sides. Some chains also offered children's desserts. Desserts were considered to be part of the children's menu if they were small versions of regular desserts ("mini"), fun types of desserts such as sundaes and ice cream cones, were marketed with a character popular with kids, and/or utilized designs with kid-oriented or party designs on the item or packaging, such as multi-colored sprinkles or balloons. Desserts were included in meal combinations only if they were bundled with the kids' meal (i.e., part of the set meal bundle of entrée, side, drink, and dessert, not if they were only available a la carte).

Buffalo Wild Wings provided ranges of nutritional data (e.g., the lowest possible calories for an item and the highest possible calories for an item based on possible modifications) for most items and so the midpoints of the ranges were used in the analyses. Waffle House included beverages with its kids' meals, but only provided nutrition information for the highest-calorie and lowest-calorie combinations of entrees and sides. The Waffle House combinations were created by substituting beverage nutrition information from other parts of the menu and using each of the provided high-calorie and low-calorie options.

We collected outlet data from Nation's Restaurant News to weigh the compliance findings by the number of outlets of each chain. The data on the compliance of each restaurant chain's meal combinations was weighted by the number of outlets for that chain located in the United States. This was conducted to limit undue influence from chains offering many meal combinations and to reflect the likelihood of a child eating at a particular restaurant chain. The outlet data from 2008, 2012, and 2018 were all gathered from Nation's Restaurant News yearly Top 200 Restaurants lists, as outlet data were not collected during the 2008 and 2012 waves of data collection.^{25,26,27} The 2012 iteration of data collection utilized the Reed Elsevier R&I Top 400 Chain Restaurants list from 2009 to identify the top 50 restaurant chains by revenue, but menu data from 2012. Data from the 2012 wave was weighted using outlet data from the Nation's Restaurant News Top 200 list for 2012.

We examined the outlet-weighted compliance of the four largest chains by number of outlets that were present in the 2008, 2012, and 2018 data sets compared to the remaining chains for each year data were collected. We also further examined the largest chains to see which nutrient standards accounted for any change in overall nutrition standard compliance between 2008 and 2018. A major improvement in compliance with a nutrient standard was defined as a ≥ 15 percent decrease in the number of meals that were non-compliant with a nutrient standard from 2008 to 2018.

Further, we compared the outlet-weighted compliance of meals at restaurant chains that participated in Kids LiveWell in 2018, a program established by the National Restaurant Association to improve the nutritional quality of kids' meals, to non-participating chains.²⁸

Results

2018 Findings

Of the top 50 restaurant chains, 12 (24.0%) did not have dedicated children's menus or sections of the menu in 2018: 7-Eleven, Domino's Pizza, Dunkin' Donuts, Five Guys Burgers and Fries, Golden Corral, Jimmie John's, Little Caesars Pizza, Papa John's Pizza, Starbucks, Taco Bell, Wawa, and Wingstop. Therefore, 38 chains were examined in this study. Eleven of these 38 chains (28.9%) were participants in the National Restaurant Association's Kids LiveWell program.

A total of 9,556 children's meal combinations were offered across the 38 restaurant chains. The Cracker Barrel offered the most meal combinations (3,228), while Carl's Jr. offered the fewest (8); the overall median meal combinations per chain was 49. Subway had the largest number of outlets in 2018 (26,744; 24.2% of all outlets), while Dave and Buster's had the fewest (90); the overall median outlets per chain was 1,624.

Thirty-three restaurant chains offered beverages bundled into children's meals. All but one chain, Pizza Hut, offered side items as a part of meals. Twenty-one restaurants offered children's desserts and three of these chains included a dessert as part of the bundled children's meal.

Seventeen chains (44.7%) did not have a single meal that was in compliance with nutrition standards in 2018. Twenty-one (55.3%) of the restaurant chains offered at least one children's meal that was compliant. However, at all restaurants, except Subway, the majority of children's meal combinations were non-compliant. When the compliance of each chain's kids' meal combinations was weighted by the number of outlets, 71.9 percent of meals failed to meet nutrition standards (see Table 2).

TABLE 2. NUTRITION STANDARD COMPLIANCE OF CHILDREN'S MEALS AT THE TOP 50 U.S. RESTAURANT CHAINS BY REVENUE WITH CHILDREN'S MEALS IN 2018 (N=38)

| RESTAURANT CHAIN (RANK BY REVENUE) | NUMBER OF KIDS' MEAL COMBINATIONS | MEALS THAT DID NOT MEET NUTRITION STANDARDS (%) | NUMBER OF OUTLETS | MENU HIGHLIGHTS |
|------------------------------------|-----------------------------------|---|-------------------|--|
| Arby's (19) | 24 | 100.0 | 3,237 | Bottled water an option; no soft drinks on kids' menu |
| Bojangle's (46) | 45 | 100.0 | 713 | Every meal exceeded all major criteria |
| Buffalo Wild Wings (17) | 96 | 100.0 | 1,187 | Nutrition info in ranges; no soft drinks on kids' menu |
| Carl's Jr (42) | 8 | 100.0 | 1,163 | Every meal came with fries |
| Chick-fil-A (7)* | 54 | 100.0 | 2,085 | High saturated fat in all meals |
| Chili's (22)* | 420 | 100.0 | 1,248 | Of milk options, only offered 2% milk |
| Culver's (44) | 30 | 100.0 | 605 | Offered 1% milk as an option |
| Dairy Queen (20)* | 15 | 100.0 | 4,465 | Ice cream cone with meal; no soft drinks on kids' menu |
| Hardee's (34) | 23 | 100.0 | 1,848 | Only fried potatoes and onion rings as sides |
| Panda Express (24) | 80 | 100.0 | 1,893 | Every meal came with cookie |
| Pizza Hut (11) | 18 | 100.0 | 7,689 | Soft drink with every meal |

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| RESTAURANT CHAIN (RANK BY REVENUE) | NUMBER OF KIDS' MEAL COMBINATIONS | MEALS THAT DID NOT MEET NUTRITION STANDARDS (%) | NUMBER OF OUTLETS | MENU HIGHLIGHTS |
|------------------------------------|-----------------------------------|---|-------------------|--|
| Popeye's (25) | 52 | 100.0 | 2,067 | No healthier drink options available |
| T.G.I. Friday's (45) | 90 | 100.0 | 469 | Almost all meals exceeded calorie limit |
| The Cheesecake Factory (36) | 126 | 100.0 | 193 | First time offering nutrition information (compared to prior data collection in 2008 and 2012) |
| Waffle House (47) | 42 | 100.0 | 1,905 | Nutrition info available for some full meals only |
| Whataburger (33) | 40 | 100.0 | 806 | Every meal came with small fries |
| Zaxby's (40) | 36 | 100.0 | 803 | Every meal came with a "treat" |
| The Cracker Barrel (27) | 3,228 | 99.9 | 639 | Every meal came with a biscuit or muffin |
| Chipotle (14) | 1,512 | 99.2 | 2,198 | No soft drinks on kids' menu |
| Steak n' Shake (49) | 83 | 98.8 | 568 | Beverages did not come with bundled meals |
| Red Robin (41)* | 1,064 | 98.5 | 533 | Beverages did not come with bundled meal |
| Applebee's (15)* | 550 | 97.8 | 1,858 | Offered steamed broccoli |
| Texas Roadhouse (30) | 265 | 96.2 | 486 | Steak fries contained 1790 mg sodium |
| Red Lobster (32) | 200 | 95.5 | 677 | Offered broiled fish, no soft drinks on kids' menu |
| Sonic Drive-In (13)* | 75 | 94.7 | 3,557 | Only fried potato side items |
| Panera Bread (10) | 126 | 94.4 | 1,956 | All meals came with yogurt, beverages did not come with bundled meals |

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| RESTAURANT CHAIN (RANK BY REVENUE) | NUMBER OF KIDS' MEAL COMBINATIONS | MEALS THAT DID NOT MEET NUTRITION STANDARDS (%) | NUMBER OF OUTLETS | MENU HIGHLIGHTS |
|------------------------------------|-----------------------------------|---|-------------------|--|
| Jack in the Box (21) | 16 | 93.8 | 2,254 | No soft drinks on kids' menu |
| KFC (12) | 176 | 93.2 | 4,167 | No soft drinks on kids' menu |
| IHOP (23)* | 14 | 92.9 | 1,637 | Beverages not bundled with meals |
| Outback Steakhouse (29)* | 28 | 92.9 | 755 | Broccoli was default side; others extra |
| Olive Garden (16) | 620 | 92.4 | 840 | Whole wheat pasta available, no soft drinks on kids' menu |
| McDonald's (1) | 12 | 91.7 | 14,155 | No soft drinks on kids' menu; has nutrition standards for all its kids' meals; CFBAI Member |
| Dave & Busters (48) | 10 | 90.0 | 90 | Beverages not bundled with meals |
| Denny's (28)* | 288 | 87.2 | 1,610 | Beverages not bundled with meals |
| Longhorn Steakhouse (39) | 20 | 85.0 | 498 | No soft drinks on kids' menu |
| Wendy's (6)* | 40 | 80.0 | 5,739 | No soft drinks on kids' menu; water is an option |
| Burger King (5)* | 15 | 60.0 | 7,156 | No soft drinks on kids' menu; CFBAI Member |
| Subway (3) | 12 | 8.3 | 26,744 | No soft drinks on kids' menu; has nutrition standards for all its kids' meals; all meals under sat fat and sodium limits |
| Total/ Average** | 9,556 | 71.9** | 110,493 | **when each chain's score is weighted by the number of outlets |

*Kids LiveWell Program participant in 2018

Changes Over Time

In 2008 and 2012, the percentage of non-compliant meals (meals that failed to meet at least one nutrition standard) as weighted by outlet data were 89.3 percent and 71.8 percent respectively. In 2018, the percentage of meals that were not in compliance with nutrition standards remained stable at 71.9 percent (see Figure 1).

Table 3 displays trends in kids' meals offerings and compliance over time. Between 2008 and 2018, the number of the top 50 restaurants offering children's meals increased from 22 to 38, and the number of meal combinations increased from 1,662 to 9,556. The percentage of restaurants offering sugary drinks on the children's menu has decreased from 95.5 percent in 2008 to 65.8 percent in 2018. There was an increase in the proportion of restaurants that offer fruits and/or vegetables as side items, from 68.2 percent in 2008 to 86.8 percent in 2018.



The proportion of meals that were not compliant with the calorie standard declined between 2008 and 2012 but was unchanged between 2012 and 2018, when 60.7 percent and 60.3 percent of meals were non-compliant, respectively. The children's meal that contained the most calories in 2018 was the kid's surf and turf from Dave & Buster's. That meal contained 2,282 calories, which is more than five times greater than the standard of 430 calories used in this

study. Compliance with the total fat standard increased between 2008 and 2012, but more meals failed to meet the total fat standard in 2018 (38.1%) compared to both 2008 and 2012. The proportion of meals that were not compliant with the saturated fat plus trans fat standard decreased from 34.8 percent in 2008 to 31.6 percent in 2012, but increased to 40.0 percent in 2018.

The same proportion of meals were non-compliant with the sodium standard in 2012 and 2018 (44.9% and 45.0% respectively) but this was an improvement compared to 2008. The children's meal with the most sodium in 2018 was the grilled cheese with french fries from Dave & Buster's. That meal contained 4,935 mg of sodium, more than quadruple the recommended daily intake of 1,200 mg of sodium according to our standard. Since our children's meal standards were developed, the National Academies of Sciences, Engineering, and Medicine updated the Chronic Disease Risk Reduction (formerly the Tolerable Upper Intake Level) intake for sodium, which is now no more than 1,500 mg per day for children ages 4-8 years.²⁹

TABLE 3. OVERALL CHANGES IN CHILDREN'S MEALS OFFERINGS AND COMPLIANCE OVER TIME AT THE TOP 50 U.S. RESTAURANT CHAINS BY REVENUE WITH CHILDREN'S MEALS

| | 2008 | 2012 | 2018 |
|--|-------|-------|-------|
| Number of Restaurants with a Kids' Menu* | 22 | 34 | 38 |
| Number of Meal Combinations | 1,662 | 3,494 | 9,556 |
| Percent of Restaurants Offering Sugary Beverages on their Kids' Menu | 95.5 | 76.5 | 65.8 |
| Percent of Restaurants Offering Fruits and/or Vegetables as Side Items | 68.2 | 82.4 | 86.8 |
| Percent of Meals that Did Not Meet Specific Standards** | | | |
| Calories | 80.2 | 60.7 | 60.3 |
| Total Fat | 32.7 | 26.9 | 38.1 |
| Saturated + Trans Fat*** | 34.8 | 31.6 | 40.0 |
| Sodium | 75.5 | 44.9 | 45.0 |
| Percent of Meals Non-Compliant with at Least One Standard** | 89.3 | 71.8 | 71.9 |

*With adequate nutrition information provided to be able to compare to nutrition standards

**As weighted by the number of outlets of each chain

***Less information about trans fats was available in 2008 and 2012, before menu labeling was implemented nationally.³⁰ Artificial trans fats could no longer be added to foods with non-petitioned uses of partially hydrogenated oils manufactured after June 18, 2018, and no longer added to foods with petitioned used of partially hydrogenated oils manufactured after June 18, 2019.³¹

Overall Children's Meal Compliance with Nutrition Standards

In 2018, 21 (55.3%) of the restaurant chains offered at least one children's meal that met all nutrition standards. However, at all restaurants except Subway, the majority of children's meal combinations were non-compliant with nutrition standards. All but one of Subway's children's meals, which all included apple slices and apple juice or low-fat milk, met the nutrition standards.

In order to examine the potential impact of the largest chains on the overall improvement in nutrition standard compliance of kids' meals at the top restaurant chains, we compared the nutrition standard compliance of the largest chains by number of outlets to the remaining chains in all three waves of data collection. Of the top five largest chains by number of outlets in 2018, four (Subway, McDonald's, Burger King, Wendy's) were analyzed in each year of data collection. The fifth, Pizza Hut, had no kids' menu in 2008 and insufficient nutritional information in 2012. These four chains were also among the five largest chains by number of outlets each year of data collection. Table 4 displays the compliance of these chains, the four largest restaurant chains present each wave of data collection, compared to the remaining chains, as weighted by the number of outlets for each chain.

The total number of outlets among both the four largest chains and remaining chains has increased each year. The total number of outlets among the four largest chains combined had been larger than the total number of outlets among the remaining chains in 2008 and 2012, but in 2018, the remaining chains had more outlets. However, the increase in the number of outlets among the remaining chains may be due to the inclusion of more restaurant chains in each wave of data collection as the number of chains offering kids' meals has increased.

In each wave of data collection, the weighted average of kids' meals nutrition standard compliance from the four largest chains was noticeably better than that for the remaining chains. While the four largest chains reduced the percentage of their meals that failed to comply with nutritional standards (meals that were non-compliant with at least one nutrition standard) from 80.7 percent in 2008 to 44.8 percent in 2018, the nutrition standard compliance of the remaining chains was essentially unchanged (99.3% non-compliant in 2008 vs. 97.6% in 2018).

TABLE 4. NUTRITION STANDARD COMPLIANCE AMONG FOUR LARGEST RESTAURANT CHAINS* AND REMAINING RESTAURANT CHAINS OVER TIME

| | 2008 | 2012 | 2018 |
|---|--------|--------|--------|
| Number of Outlets | | | |
| Four Largest Chains* | 48,203 | 51,908 | 53,794 |
| Remaining Chains | 41,428 | 49,947 | 56,699 |
| Percent Non-Compliant with at Least One Nutrition Standard** | | | |
| Four Largest Chains* | 80.7 | 49.0 | 44.8 |
| Remaining Chains | 99.3 | 95.6 | 97.6 |

*As ranked by number of outlets and present during each wave of data collection

**Weighted by number of outlets

Table 5 displays the nutrition standard compliance over time of the 18 restaurant chains that were present in all three waves of data collection. In 2008, 77.8 percent (n=14) of these chains did not have a single meal that met all nutrition standards. In 2018, the majority of chains (55.6%, n=10) had at least one meal that met all nutrition standards. The largest differences between 2008 and 2018 were evident for Subway (the chain with greatest compliance by a large margin in 2008 and 2018), Burger King, and Wendy's (three of the four largest chains present during each wave of data collection). The percentage of meals that were compliant with nutritional standards worsened at Arby's (94.0% non-compliant in 2008 vs. 100.0% in 2018).

Each of the four largest chains had major improvement in compliance (≥ 15 percent decrease in the number of meals that were non-compliant with a nutrient standard from 2008 to 2018) in at least two nutrient standards. Wendy's and Subway both improved compliance in two nutrient standards between 2008 and 2018, although all of Subway's meals in 2008 met the total fat and saturated fat plus trans fat standards, therefore it could only improve in two categories. McDonald's improved compliance in three nutrient standards, and Burger King improved compliance in all four nutrient standards.

TABLE 5. NUTRITION STANDARD COMPLIANCE OF THE TOP 50 CHAINS BY REVENUE WITH CHILDREN'S MEALS PRESENT IN 2008, 2012, AND 2018 OVER TIME

| RESTAURANT CHAIN | PERCENT NON-COMPLIANT, 2008 | PERCENT NON-COMPLIANT, 2018 | DIFFERENCE |
|-----------------------------|-----------------------------|-----------------------------|------------|
| Four Largest Chains* | | | |
| McDonald's | 100.0 | 91.7 | -8.3 |
| Wendy's | 100.0 | 80.0 | -20.0 |
| Burger King | 100.0 | 60.0 | -40.0 |
| Subway | 56.0 | 8.3 | -47.7 |
| Remaining Chains | | | |
| Arby's | 94.0 | 100.0 | 6.0 |
| Chili's | 99.6 | 100.0 | 0.4 |
| Chick-fil-a | 100.0 | 100.0 | 0.0 |
| Dairy Queen | 100.0 | 100.0 | 0.0 |
| Hardees | 100.0 | 100.0 | 0.0 |
| Panda Express | 100.0 | 100.0 | 0.0 |
| Popeyes | 100.0 | 100.0 | 0.0 |
| Whataburger | 100.0 | 100.0 | 0.0 |
| Red Robin | 100.0 | 98.5 | -1.5 |
| Sonic | 100.0 | 94.7 | -5.3 |
| Panera Bread | 100.0 | 94.4 | -5.6 |
| Jack in the Box | 100.0 | 93.8 | -6.2 |
| KFC | 100.0 | 93.2 | -6.8 |
| Denny's | 96.0 | 87.2 | -8.8 |

*As ranked by number of outlets and present during each wave of data collection

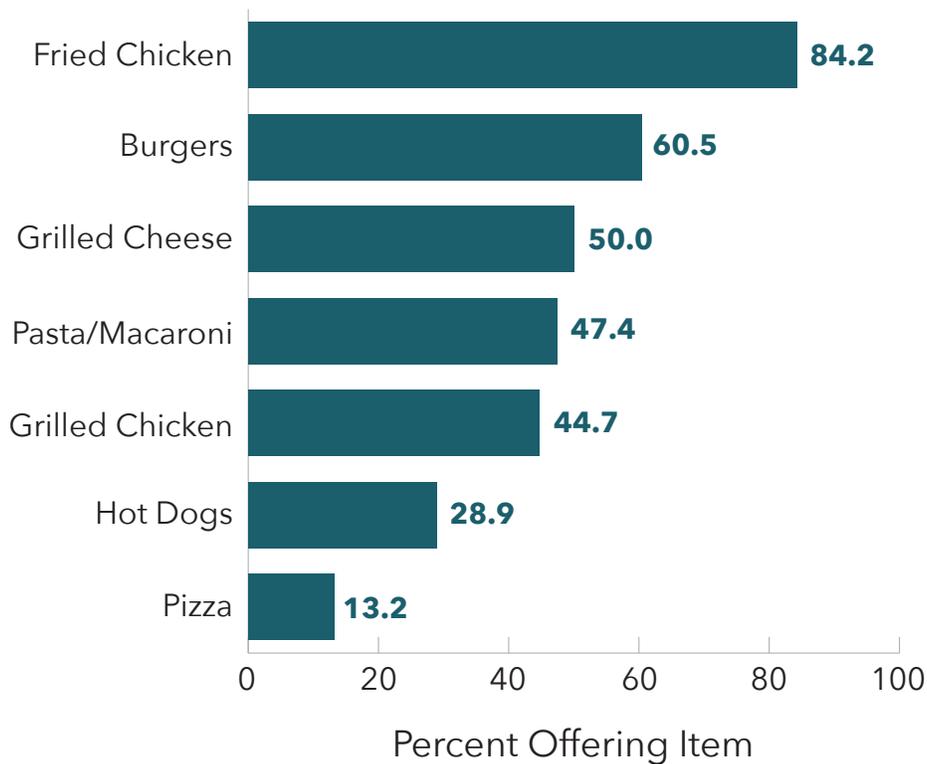
Kids LiveWell Participation

Eleven restaurants that were included in 2018 data collection participate in the National Restaurant Association's Kids LiveWell program. In 2018, participation required restaurants to offer at least one children's meal and two sides that meet the National Restaurant Association standards.³² Among the 11 Kids LiveWell-participating restaurants, 84.9 percent (weighted using outlet data) of meals were non-compliant with nutrition standards (non-compliant with at least one nutrition standard). Among the 27 remaining chains, 66.6 percent (weighted using outlet data) of meals were non-compliant.

Entrees

Thirty-two of the 38 restaurant chains in 2018 (84.2%) offered fried chicken entrees, such as chicken fingers or nuggets (see Figure 2). Twenty-three (60.5%) offered burgers, 19 (50%) offered grilled cheese, and 18 (47.4%) offered pasta/macaroni dishes. Seventeen chains (44.7%) offered grilled chicken, one of the lowest-calorie entrees offered. Other entrees included hot dogs, which were offered by 11 (28.9%) restaurant chains, and pizza, which was offered by five (13.2%), followed by less-frequently offered items such as seafood, deli sandwiches, quesadillas, soups, salads, peanut butter and jelly sandwiches, and tacos. Seven (18.4%) restaurant chains offered breakfast entrees specifically for children.

FIGURE 2. PERCENT OF LARGE U.S. RESTAURANT CHAINS BY REVENUE THAT OFFERED CHILDREN'S ENTREES IN 2018 (N=38)

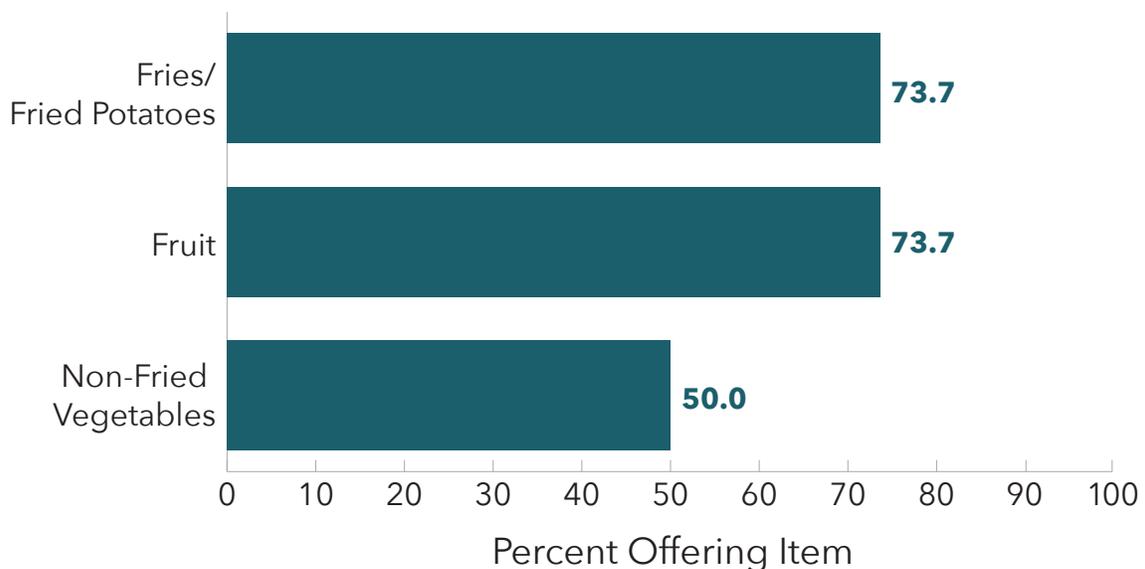


Side Items

Twenty-eight (73.7%) top restaurant chains in 2018 offered fried potatoes, such as french fries or potato chips and 19 (50.0%) chains offered vegetables other than fried potatoes (see Figure 3). Common types of non-fried potato vegetable side items included: broccoli (fresh and steamed), mashed potatoes, coleslaw, salad, carrots, green beans, corn, baked potato, and sweet potato.

Three-quarters of the chains (73.7%) offered fruit as a side item. The most common types of fruit side items included apples (slices and applesauce), mixed fruit, mandarin oranges, and grapes.

FIGURE 3. PERCENT OF LARGE U.S. RESTAURANT CHAINS BY REVENUE THAT OFFERED CHILDREN'S SIDE ITEMS IN 2018 (N=38)

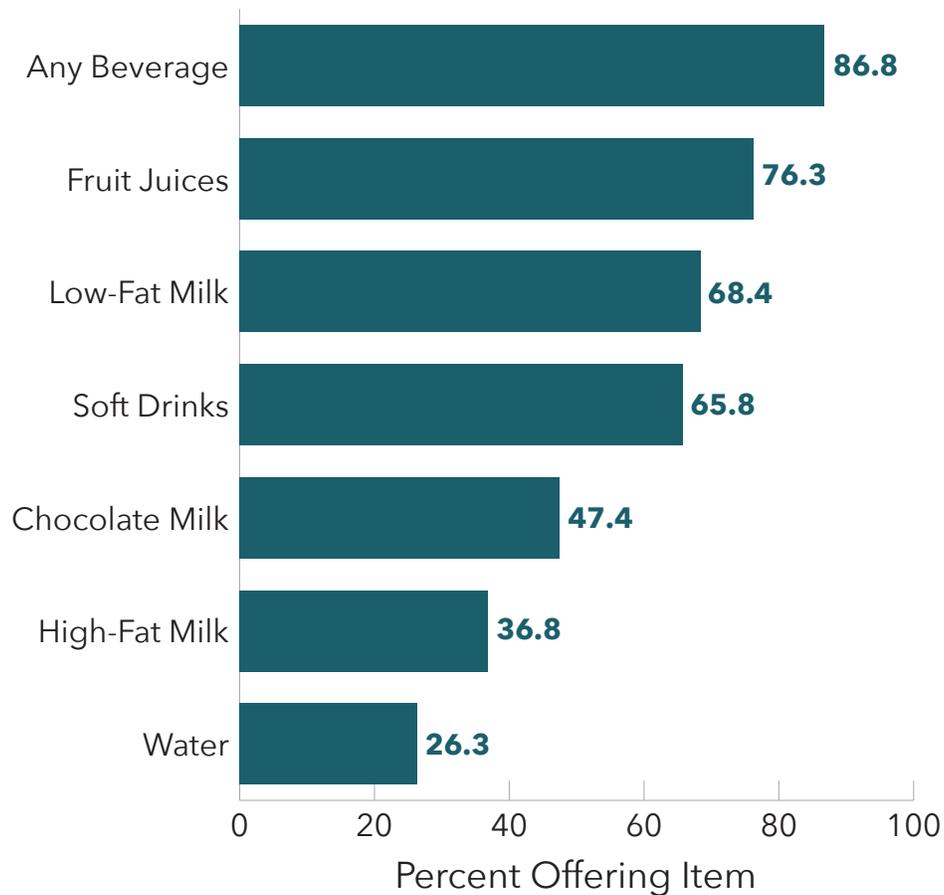


Beverages

The great majority (86.8%; n=33) of the top restaurant chains with children's menus in 2018 offered beverages bundled with children's meals (see Figure 4). Dave & Buster's, Denny's, IHOP, Panera Bread, and Steak n' Shake did not bundle beverages as part of their children's meals; they had to be purchased separately. The most common beverage on restaurant children's menus was 100 percent juice or juice without added sweeteners (76.3%; n=29). Roughly two-thirds of the top chains offered low-fat milk (68.4%, n=26) and soft drinks (65.8%, n=25). Nearly half the chains offered chocolate

milk of any kind (47.4%, n=18), just over a third offered high-fat milk (whole or 2%) (36.8%, n=14), and a quarter offered water (26.3%, n=10).

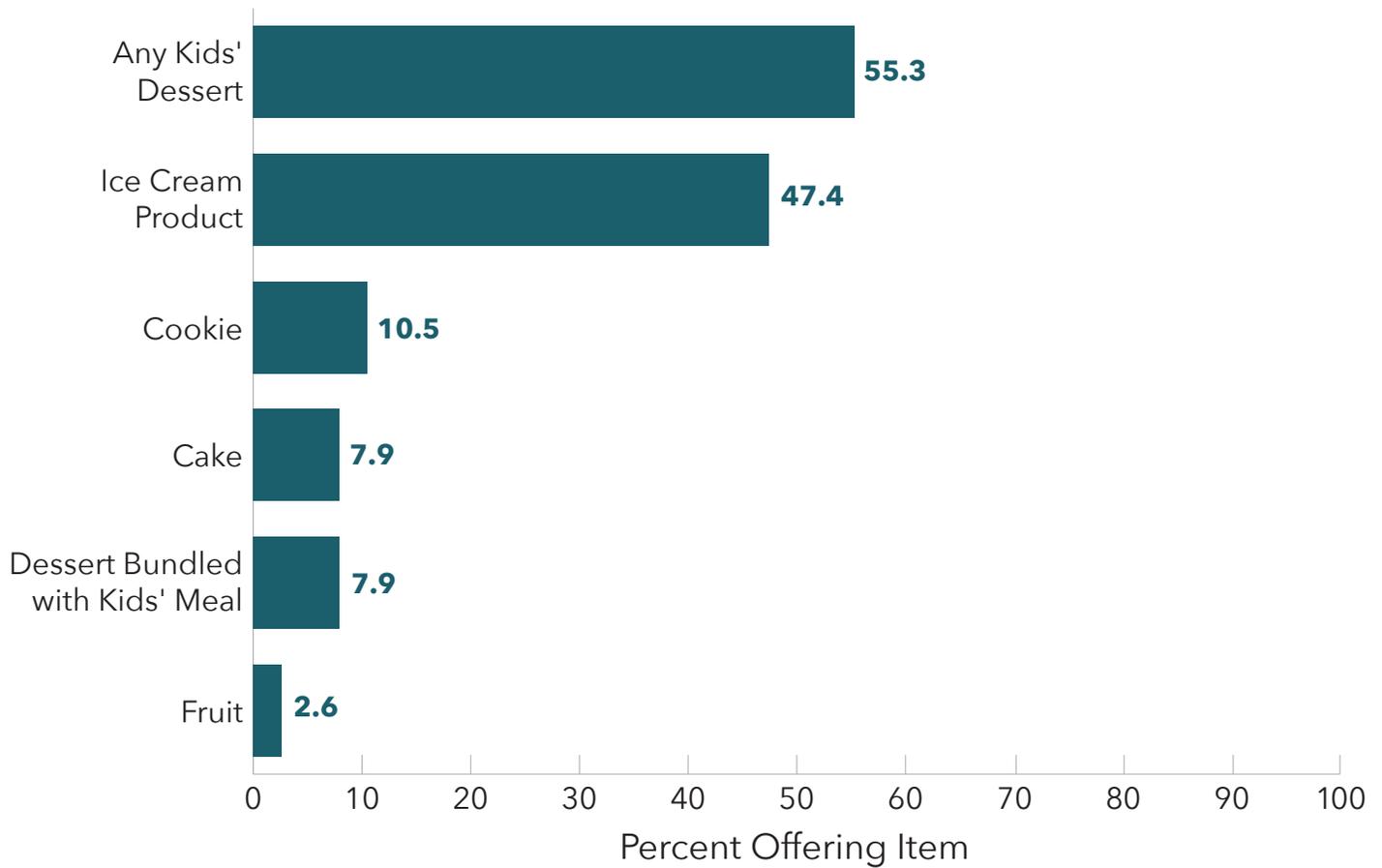
FIGURE 4. PERCENT OF LARGE U.S. RESTAURANT CHAINS BY REVENUE THAT OFFERED CHILDREN'S BEVERAGES IN 2018 (N=38)



Desserts

Twenty-one chains (55.3%) offered children's desserts in 2018. Three chains (7.9%) offered a dessert bundled into the children's meal, including a kid's ice cream cone at Dairy Queen, a cookie at Panda Express, and a "treat" at Zaxby's. The most common desserts on children's menus were ice cream products (sundaes, shakes, cones, floats, custard, etc.; 47.4%, n=18) and cookies (10.5%, n=4). One restaurant, The Cheesecake Factory, offered strawberries as a children's dessert option.

FIGURE 5. PERCENT OF LARGE U.S. RESTAURANT CHAINS BY REVENUE THAT OFFERED CHILDREN'S DESSERTS IN 2018 (N=38)



Discussion and Recommendations

While the overall nutrition standard compliance of restaurant children's meals has improved since 2008, this progress appears to have stalled. Since 2012, meal compliance has not improved (71.8% of meals were non-compliant in 2012 vs. 71.9% in 2018). The percentage of meal combinations that were non-compliant with the calorie standard decreased between 2008 and 2012 but remained stagnant between 2012 and 2018. The percentage of meals that were non-compliant with the saturated fat plus trans fat standard decreased between 2008 and 2012 but increased to a new high in 2018. In addition, the percentage of meals that were

non-compliant with the total fat standard decreased between 2008 and 2012 and increased between 2012 and 2018, perhaps reflecting decreasing emphasis on this measure in the Dietary Guidelines for Americans. No improvements have been made to the sodium standard compliance of meals since 2012, as the percentage of meals that were not compliant with the sodium standard remained at 45.0 percent in 2018, although this is lower than the 75.5 percent of meals that were non-compliant with this standard in 2008.

In general, the largest chains are the chains with the most compliant kids' meals. The top three most compliant kids' menus in 2018 (Subway, Burger King, and Wendy's) are among the five largest chains by number of outlets in the country. Any improvements to the nutrition standard compliance of children's meals over time can also be attributed to changes made by the four chains that were among the top five largest restaurant chains by number of outlets during all waves of data collection (Subway, McDonald's, Burger King, Wendy's). In 2008, 80.7 percent of meals from these four chains were non-compliant, while in 2018, 44.8 percent of meals were non-compliant.

However, in 2008, 99.3 percent of meals from the remaining chains did not comply with nutrition standards. This was practically unchanged in 2018, when 97.6 percent of meals from the remaining chains were non-compliant. Furthermore, the four large chains have improved their performance against multiple standards, meaning they have been capable of achieving comprehensive improvements to their children's menus. Even so, as Table 4 indicates, just under half of children's meal offerings at the four largest restaurant chains present during each wave of data collection were not compliant with nutrition standards in 2012 and 2018.

Collectively, these findings indicate that a few large chains have successfully and comprehensively improved their restaurant children's meals over the past decade, but other chains' kids' menus remain essentially unchanged and largely non-compliant.

There are several modifications that would help restaurant children's meals meet nutrition standards. Calorie content could be significantly reduced by removing sugary drinks from the kids' menu. The number of restaurant chains that include sugary drinks on the children's menu has been declining over the last decade, but two-thirds of restaurant chains still offer sugary drinks to children.

A typical child-sized soda has 40 grams of added sugars, 15 grams more than recommended for a whole day for a child aged one to three years old and 80 percent of the recommended daily value for older children.³³ Consumption of sugary drinks in childhood leads

Restaurants can support families' efforts to feed their children healthfully by **offering water explicitly** as a children's beverage option and removing all sugary drinks from children's menus, **as McDonald's, Wendy's, Olive Garden, and several other chains have.**

to weight gain and is associated with an increase in risk factors for cardiovascular disease.^{34,35} Restaurants can support families' efforts to feed their children healthfully by offering water explicitly as a children's beverage option and removing all sugary drinks from children's menus, as McDonald's, Wendy's, Olive Garden, and several other chains have.³⁶

In addition, several chains have chosen to adopt the National Restaurant Association's Kids LiveWell program, which required participating restaurants to have one meal and two sides that met nutrition standards in 2018.³⁷ In our analysis, among the eleven Kids LiveWell restaurant chains included in 2018 data collection, 84.9 percent of meals failed were non-compliant with our nutrition standards. This is actually worse than the performance of non-participating

restaurants, in which 66.6 percent of meals were non-compliant with nutrition standards. The program can be made more effective by securing greater numbers of participating chains. The program can also be made more effective by strengthening the requirements for participation by increasing the overall number of meals that must meet the standards. The Kids LiveWell program now requires participating restaurants to offer two meals and two sides that meet the program nutrition standards and have healthy default beverages,³⁸ however the healthy options that meet Kids LiveWell standards are often outnumbered by unhealthy options.

Aside from adopting the Kids LiveWell standards, restaurant chains can also adopt their own nutrition standards for their entire kids' menu. In 2018, McDonald's announced its Global Happy Meal Nutrition Criteria, which requires meals to be ≤ 600

calories, ≤ 10 percent of calories from saturated fat, ≤ 650 mg sodium, and ≤ 10 percent of calories from added sugar.³⁹ Other restaurant chains should take similar action and develop their own nutrition standards for kids' meals. Such nutrition standards can help restaurants "shift their product portfolios in a direction that promotes new and reformulated child- and youth-oriented foods and beverages that are substantially lower in total calories, lower in fats, salt, and added sugars, and higher in nutrient content," a recommendation made by the Institute of Medicine after a thorough review of food marketing to children.⁴⁰ Healthier menu policies may not require a sacrifice of either revenue by the restaurant or choice by the consumer. A study following changes to menu policy at the Silver Diner restaurant chain indicated that revenue grew after healthier kids' meals were introduced.⁴¹

Menu labeling can also be an effective tool and can help families identify healthier options. Since menu labeling went into effect in the U.S. on May 7, 2018, restaurant chains with 20 or more outlets nationally (all the chains in the present study) are required to post calories on menus and menu boards and make available additional nutrition information upon request.⁴² Families can look to this information for guidance when choosing what to order, especially because, as this study demonstrates, nutritional content can vary



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widely both within and between restaurant chains. For example, french fries vary across restaurants, ranging from 110 calories for a kids' fries at McDonald's or 220 for a side of fries at Jack-in-the-Box to 728 calories for a side of fries at Dave & Buster's. Required menu labeling could be expanded to include information on other nutrients, such as added sugar or sodium, to further inform family decisions.

Recommendations for restaurants:

- ✔ Participate in the National Restaurant Association's Kids LiveWell program and reformulate meals so that *all* meet calorie, sodium, saturated fat, and other nutrition standards;
- ✔ Remove soft drinks and other sugary drinks from children's menus;
- ✔ Make non-fried vegetables (excluding white potatoes) and fruit the default side dishes with every children's meal; and
- ✔ Reduce portion sizes.

In addition, restaurants should consider offering more whole grains. The *2020-2025 Dietary Guidelines for Americans* recommends that children ages five to eight should eat between two to three ounces of whole grains a day, yet children these ages eat roughly one ounce of whole grains a day.⁴³ Furthermore, restaurants should consider marketing only healthy options to children through all marketing approaches used by the restaurant, including through mass media, websites, in-store promotions and toy giveaways, school-related activities, and other venues. Exposure to food marketing is known to influence purchase requests, food and beverage preferences, beliefs, and short-term food consumption of children ages two to eleven.⁴⁴ Advertisements for healthy menu items might influence children's preference and requests for these products.

Given that almost half of the top-50 restaurant chains (44.7%) did not offer a single compliant kids' meal combination and two-thirds still had soda and other sugary drinks on children's menus, states and localities should continue to pass healthy kids' meal policies. There is a growing movement of healthy kids' meal policies, including laws passed in the states of California; Delaware; Hawaii; and Illinois; and localities including Prince George's County, MD;

Cleveland, OH; Philadelphia, PA; New York, NY; Baltimore, MD; Louisville, KY; Lafayette, CO; and a dozen more. The majority of policies passed require healthier default beverages with children's meals. Prince George's County, MD became the first locality to pass a policy that goes beyond default beverages and attempts to improve the nutritional quality for at least one full meal combination on the children's menu. Many more states and localities are working towards passing similar default beverage or full meal nutrition standards policies.

Limitations

This study is limited by several factors. The data presented in this study do not represent recent menu changes that may have occurred since data collection, including the rollout of full nutrition standards at McDonald's announced in February 2018 and mostly implemented in June of 2018 (100% of McDonald's kids' meals offered in June 2018 had to meet their calorie, added sugar, and saturated fat standards; 78% had to meet their sodium standard).⁴⁵ Data collection for McDonald's took place in May of 2018, therefore all the menu changes may not have been incorporated yet.

In addition, the nutrition standards used in this study have not been updated since 2005. The standard for total fat, in particular, may be outdated, as there is greater understanding that consumption of certain fats like saturated fats and trans fats is of greater concern compared to all fats. Therefore, failure to comply with this standard may be overrepresented in the results. However, it is important to note that the total fat standard was the least commonly violated standard in 2018. Lastly, this study is an analysis of what restaurants offered, and does not reflect what families actually ordered in the restaurant.

Given that almost half of the top-50 restaurant chains (44.7%) did not offer a single compliant kids' meal combination and two-thirds still had soda and other sugary drinks on children's menus, states and localities should continue to pass healthy kids' meal policies.

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