

Federal calorie labelling compliance at US chain restaurants

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Funding information

National Institutes of Health, Grant/Award Number: R01DK115492

Summary

Objective: The 2010 Affordable Care Act included a provision requiring chain food establishments to post calories on menus. In 2017, prior to the final implementation of the law, 59 of 90 top-selling chains had fully implemented labelling. This study extends the documentation of compliance to the 200 top-selling chains after the nationwide requirement went into effect in May 2018.

Methods: To determine if restaurants were compliant with the federal menu labelling law, objective information was collected from all 197 of the 200 highest grossing restaurant chains in the United States. The study team obtained information via site visits and internet searches for a convenience sample of restaurants within each of these chains.

Results: 94% had implemented menu calorie labelling after the May 2018 deadline. Of the 11 chains not complying, six were full-service restaurants.

Conclusion: Most chain restaurants have complied with the federal calorie labelling law, suggesting that compliance is attainable for all chains. Given this finding, the Food and Drug Administration should initiate enforcement of labelling for non-compliant chains.

KEYWORDS

calorie labelling, food policy, menu labelling, nutrition policy

1 | INTRODUCTION

On May 7, 2018, the US Food and Drug Administration (FDA) began requiring compliance with the federal calorie labelling regulation, as mandated by the 2010 Affordable Care Act (ACA).¹ This regulation requires that restaurants, supermarkets, convenience stores, and other similar chain food establishments with 20 or more US sites to post calories on menus and menu boards. The FDA repeatedly delayed the regulation, in part due to lobbying from food companies and congressional action. Prior to 2018, some cities and states, including New York City, New York; Philadelphia, Pennsylvania; and Seattle/King County, Washington required labelling, and some restaurant chains, such as McDonald's and Panera Bread, voluntarily implemented labelling nationwide.²

Current research on the effect of calorie labelling, mostly conducted among diners at restaurants, is mixed; the overall effect appears to be very small.³ One recent study used retail transaction data from three chains that implemented labelling in April 2017; an immediate decrease of 60 calories per transaction occurred after labelling followed by some attenuation over the following year.⁴ Further longitudinal data are needed to measure whether this change will persist over time. Some evidence points to menu calorie labelling increasing awareness of the calorie labels at restaurants that adopted calorie labelling before the national mandate,⁵ and studies have demonstrated that the majority of Americans are generally aware of their daily calorie needs.⁶

Research on the supply side, from food retailers, has found that new menu items introduced in recent years tend to be lower calorie

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TABLE 1 US chain restaurants compliant with federal calorie labelling compliance in 2018/19

US Chain Restaurants Compliant with Labelling, with 2017 Gross Sales Rankings									
2017 US Sales (\$000,000)		2017 US Sales (\$000,000)		2017 US Sales (\$000,000)		2017 US Sales (\$000,000)		2017 US Sales (\$000,000)	
Ranking	Restaurant	Ranking	Restaurant	Ranking	Restaurant	Ranking	Restaurant	Ranking	Restaurant
1	\$37,639 McDonald's ^a	50	\$966 Raising Cane's Chicken Fingers	100	\$394 Krystal Co. ^a	153	\$235 Souplantation & Sweet Tomatoes		
2	\$17,650 Starbucks ^a	51	\$910 Bob Evans	101	\$393 Tropical Smoothie Café	154	\$234 Pizza Ranch		
3	\$10,800 Subway ^a	52	\$908 In-N-Out Burger ^a	103	\$382 Cold Stone Creamery	155	\$229 Fazoli's		
4	\$9,790 Taco Bell ^a	53	\$891 Krispy Kreme ^a	104	\$374 Corner Bakery Café	156	\$226 A&W All-American Food		
5	\$9,645 Burger King	54	\$882 P.F. Chang's	105	\$374 Jet's Pizza	157	\$223 Sonny's BBQ		
6	\$9,310 Wendy's ^a	55	\$845 Hooters	106	\$472 Village Inn	158	\$222 Romano's Macaroni Grill ^a		
7	\$9,020 Chick-fil-A ^a	56	\$839 El Pollo Loco ^a	107	\$369 Chuy's	159	\$222 UNO Pizzeria & Grill		
8	\$8,458 Dunkin' Donuts ^a	58	\$827 Ruby Tuesday ^a	108	\$367 Taco John's	160	\$222 Which Wich Superior Sandwiches		
10	\$5,510 Pizza Hut ^a	59	\$822 Qdoba Mexican Eats ^a	109	\$358 Shake Shack	161	\$221 Big Boy		
11	\$5,465 Panera Bread ^a	60	\$783 Del Taco ^a	110	\$358 Pollo Tropical	162	\$221 Newk's Eatery		
12	\$4,417 KFC ^a	61	\$774 Church's Chicken	111	\$355 Pei Wei Asian Diner	163	\$220 Rubio's		
13	\$4,415 Chipotle Mexican Grill ^a	62	\$760 Tim Hortons ^a	112	\$354 The Habit Burger Grill	164	\$217 Bahama Breeze Island Grille		
14	\$4,408 Sonic Drive-In ^a	63	\$720 Cheddar's Scratch Kitchen	113	\$351 On the Border Mexican Grill & Cantina ^a	167	\$215 Luby's		
15	\$4,117 Applebee's ^a	64	\$715 Moe's Southwest Grill ^a	114	\$344 Au Bon Pain	168	\$214 Claim Jumper		
16	\$3,938 Olive Garden	65	\$715 Firehouse Subs ^a	116	\$342 Schlotzsky's	169	\$212 Fuddrucker's		
17	\$3,833 Buffalo Wild Wings	66	\$695 California Pizza Kitchen ^a	117	\$338 Portillo's	170	\$209 Shoney's		
18	\$3,722 Little Caesars ^a	67	\$692 Ruth's Chris Steak House	118	\$338 Benihana	171	\$208 Penn Station East Coast Subs		
19	\$3,643 Dairy Queen	68	\$687 Carrabba's Italian Grill ^a	119	\$336 Braum's Ice Cream & Dairy Stores	172	\$208 Café Rio Mexican Grill		

(Continues)

TABLE 1 (Continued)

US Chain Restaurants Compliant with Labelling, with 2017 Gross Sales Rankings											
Ranking	2017 US Sales (\$000,000)	Restaurant	Ranking	2017 US Sales (\$000,000)	Restaurant	Ranking	2017 US Sales (\$000,000)	Restaurant	Ranking	2017 US Sales (\$000,000)	
20	\$3,634	Arby's ^a	69	\$656	McAlister's Deli ^b	120	\$333	Smashburger	173	\$208	McCormick & Schmick's
21	\$3,527	Chili's Grill & Bar ^a	70	\$646	Jason's Deli ^a	121	\$318	Zoes Kitchen	174	\$206	Old Country Buffet/HomeTown Buffet
22	\$3,469	Jack in the Box ^a	71	\$630	Perkins Restaurant & Bakery ^a	122	\$317	Twin Peaks	175	\$205	Mimi's Café
23	\$3,255	IHOP	72	\$619	Bonefish Grill ^a	123	\$316	Bar Louie	176	\$200	Buca di Beppo
24	\$3,114	Panda Express ^a	73	\$613	Dickey's Barbecue Pit	124	\$313	Smoothie King	177	\$200	Taco Bueno
25	\$2,015	Popeyes Louisiana Kitchen	74	\$606	Baskin-Robbins	125	\$313	First Watch	178	\$198	Johnny Rockets
26	\$2,009	Papa John's	75	\$596	Logan's Roadhouse	126	\$313	Ninety Nine Restaurants	179	\$197	la Madeleine Country French Café
27	\$2,693	Denny's	76	\$593	Boston Market ^a	127	\$300	Fleming's Prime Steakhouse & Wine Bar	180	\$196	Bubba Gump Shrimp Co. Restaurant & Market
28	\$2,595	Outback Steakhouse	77	\$559	Auntie Anne's ^a	128	\$298	Texas de Brazil Churrascaria	181	\$194	Le Pain Quotidien
29	\$2,476	Texas Roadhouse	78	\$553	Captain D's Seafood Kitchen ^a	129	\$294	Taco Cabana	182	\$192	Beef 'O' Brady's
30	\$2,358	Jimmy John's Gourmet Sandwiches ^a	79	\$552	Checkers Drive-In Restaurants	130	\$292	Rally's Hamburgers	184	\$188	Fuzzy's Taco Shop
31	\$2,351	Cracker Barrel Old Country Store	80	\$549	Marco's Pizza	131	\$284	Fogo de Chao	185	\$187	Menchie's Frozen Yogurt
32	\$2,290	Hardee's	81	\$547	White Castle ^a	132	\$284	Peet's Coffee & Tea	186	\$186	Houlihan's
33	\$2,290	Red Lobster ^a	82	\$543	Einstein Bros. Bagels	133	\$297	Friendly's ^a	187	\$185	Pret a Manger
34	\$2,278	Whataburger	83	\$530	Yard House ^a	134	\$278	Hard Rock Café	188	\$185	Torchy Tacos
35	\$2,057	The Cheesecake Factory	84	\$526	Noodles & Co. ^a	135	\$275	Joe's Crab Shack ^a	189	\$184	Sarku Japan
36	\$1,933	Zaxby's	85	\$523	Jamba Juice ^a	136	\$271	Blaze Pizza	190	\$183	Bertucci's

(Continues)

TABLE 1 (Continued)

US Chain Restaurants Compliant with Labelling, with 2017 Gross Sales Rankings									
2017 US Sales (\$000,000)		2017 US Sales (\$000,000)		2017 US Sales (\$000,000)		2017 US Sales (\$000,000)		2017 US Sales (\$000,000)	
Ranking	Restaurant	Ranking	Restaurant	Ranking	Restaurant	Ranking	Restaurant	Ranking	Restaurant
37	\$1,758 Golden Corral	86	\$494 Dave & Buster's	137	MOD Pizza	191	\$182 The Melting Pot		
38	\$1,675 LongHorn Steakhouse	87	\$490 O'Charley's	138	Wiener schnitzel	193	\$179 Smokey Bones Bar & Fire Grill		
39	\$1,561 Red Robin Gourmet Burgers and Brews	88	\$459 Potbelly Sandwich Shop	139	Old Chicago Pizza & Taproom	195	\$178 Bruegger's Bagels		
40	\$1,527 Carl's Jr ^a	89	\$455 Long John Silver's ^a	140	Caribou Coffee	196	\$177 Cinnabon		
41	\$1,436 Five Guys Burger and Fries	90	\$445 Mellow Mushroom	141	Huddle House	197	\$172 Islands Fine Burgers & Drinks		
42	\$1,426 Culver's ^a	91	\$444 Round Table Pizza	142	Godfather's Pizza	199	\$171 Yogurtland		
43	\$1,400 TGI Fridays ^a	92	\$439 Cicis ^a	143	Black Bear Diner	200	\$170 Quiznos ^a		
44	\$1,334 Waffle House	93	\$421 The Capital Grille	144	Morton's The Steakhouse				
45	\$1,276 Bojangles' Famous Chicken 'N Biscuits ^a	94	\$411 Freddy's Frozen Custard & Steakburgers	145	Seasons 52				
46	\$1,087 Steak 'n Shake ^a	95	\$409 Maggiano's Little Italy	147	Sizzler				
47	\$1,047 Wingstop ^a	97	\$402 Chuck E. Cheese's	148	Saltgrass Steak House				
48	\$1,031 BJ's Restaurant & Brewhouse ^a	98	\$401 Miller's Ale House	150	Brio Tuscan Grille				
49	\$974 Jersey Mike's Subs	99	\$400 Famous Dave's	152	Dutch Bros. Coffee				

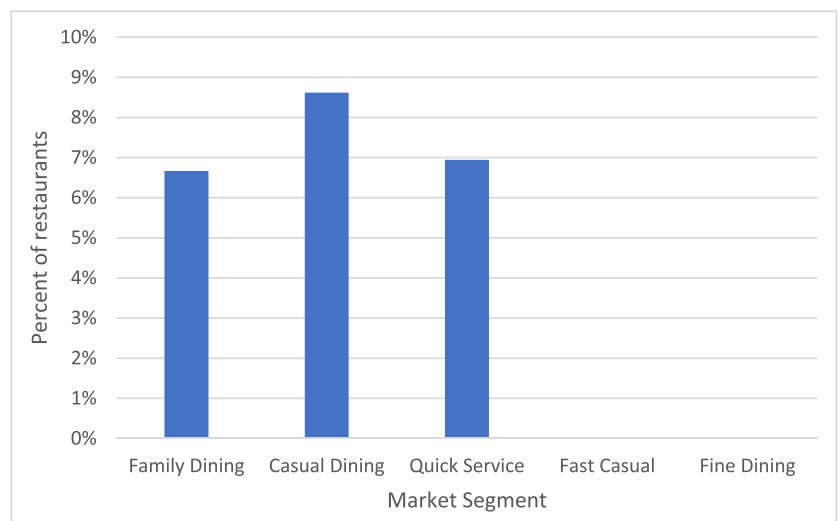
^aRestaurants that implemented calorie labelling prior to 2018.

TABLE 2 Federal Menu Labelling Noncompliance in US Chain Restaurants

Federal Menu Calorie Labelling Noncompliance in US Chain Restaurants, by Market Segment Type and Number of US Locations						
2016 Gross Sales Ranking	Restaurant Name	2017 US Sales (\$000,000)	Number of US locations ^a	Market Segment	Menu Category	Locations of Site Visits in 2018, 2019
9	Domino's	\$5,925	5,587	Quick Service	Pizza	MA
57	Papa Murphy's Pizza	\$832	1483	Quick Service	Pizza	NC, WI
96	Hungry Howie's Pizza	\$403	552	Quick Service	Pizza	MI, NC
102	Charley's Philly Steaks	\$388	497	Quick Service	Sandwich	MA
115	Pappadeaux Seafood Kitchen	\$343	34	Casual Dining	Seafood	TX
146	Bill Miller Bar-B-Q	\$244	73	Family Dining	Specialty	TX
149	Cooper's Hawk Winery Restaurants	\$241	30	Casual Dining	Varied Menu	VA
151	Sbarro	\$236	318	Quick Service	Pizza	MA, NV
166	Legal Sea Foods ^b	\$216	36	Casual Dining	Seafood	MA
183	Uncle Julio's	\$191	30	Casual Dining	Mexican	VA
194	Kona Grill	\$179	44	Casual Dining	Asian	LA

^aNumber of US locations determined from Technomics 2016 data.¹¹

^bThe federal regulation requires labelling for chains that have 20+ locations operating under the same name. Some chains operate under more than one name. For example, Legal Sea Foods has several names for their restaurants, such as Legal C Bar, Legal Test Kitchen, and Legal C Bar. Their dominant restaurant Legal Sea Foods has 20 locations operating under that name.

FIGURE 1 Chain restaurant noncompliance by market segment

than items that fell off menus, a trend that could be due, at least in part, to reformulation in anticipation of calorie labelling.⁷ An analysis of popular pizza restaurant chains showed that lower-calorie pizzas were introduced in 2017, compared with items continually on menus from 2014 to 2017, a trend that could continue or expand if chains respond to the labelling requirement.⁸ Now that the regulation is in

effect, further assessments of retailer responses to the law will be possible.⁹ All of these effects may be stronger if chains fully comply with labelling, increasing the exposure to consumers.

From April to December 2017, prior to the full implementation of the law, calorie labelling compliance was assessed among 90 of the largest US chain establishments.¹⁰ Information was obtained from

TABLE 3 US chain restaurant non-compliance by menu category

US Chain Restaurant Non-compliance by Menu Category			
Menu Category	Number of Restaurants	Noncompliant Restaurants	Percent Noncompliant, %
Pizza	16	4	25.0
Seafood	9	2	22.2
Specialty	14	1	7.1
Asian	7	1	14.3
Sandwich	16	1	6.3
Mexican	15	1	6.7
Varied Menu	24	1	4.2
Family Style	17	0	6.3
Steak	11	0	0.0
Burger	22	0	0.0
Sports Bar	6	0	0.0
Italian/Pizza	9	0	0.0
Frozen Desserts	6	0	0.0
Coffee/Café	6	0	0.0
Chicken	11	0	0.0
Bakery/Café	8	0	0.0

corporate headquarters, phone calls to individual restaurants, and targeted site visits. At that time, 59 (66% of) chains were fully compliant (ie, all sites contacted reported labelling), and 12 (13% of) chains were partially compliant (ie, some sites did not report labelling); 9 of the top 10 supermarket chains also were labelling, at least in part. In this study, the assessment of compliance was expanded to include chains from the top 200 highest grossing US chain restaurants, with objective documentation of compliance with the labelling law after its implementation in May 2018.

2 | METHODS

The top 200 grossing chains were identified from a report by Technomic, a foodservice research and strategic consulting company.¹¹ Technomic categorizes chains based on their market segment (quick service, fast casual, family dining, fine dining, and casual dining) and specific category of food offered (eg, pizza, burger, Mexican, and family style). Three of the 200 were excluded because they did not have 20 or more US sites and would not technically need to comply with the law. Between June and December 2018, the research team collected objective information from a convenience sample of restaurants in 138 of the 200 chains, including those that were previously assessed to be partially compliant or noncompliant prior to 2018; the 59 previously compliant chains were not included in this initial assessment (Table 1). For 133 chains, the team coordinated a site visit to at least one restaurant location, excluding sites in New York City,

Philadelphia, Seattle/King County, and California, places where calorie labelling was already mandated before the federal law went into effect.

At each of these restaurants, a photograph of the printed menu and posted menu board (where present) was captured to determine if calories appeared next to each menu item as required by the law. Most restaurants were located in Massachusetts and Louisiana but included a mixture of urban and suburban locations across the United States. Site visits to five chains were not possible due to the limited number of locations of these restaurants in areas of the country that were accessible to the research team. Instead, Yelp.com, a crowdsourced website for restaurant reviews, was the source used for verifying compliance. Yelp has an extensive collection of photos from restaurant locations, including menus, and the team searched for and assessed menu photographs posted after May 7, 2018, from at least two restaurant locations, in different states, when possible.¹² With these five, the number of new chains assessed was 138.

A few chains had variable compliance over the time period for this study. For example, Five Guys restaurants and Smokey Bones Bar & Fire Grill were not labelled during the early stages of our assessment; later visits or information captured on Yelp documented consistent compliance. Other discrepancies came up in the initial assessment of the following restaurants: Chuck E. Cheese's, Marco's Pizza, Papa John's, and Texas de Brazil. Because later visits to these chains discovered compliance, either with in-person visits or searches on Yelp, these chains were counted as compliant. To confirm ongoing compliance with labelling for the initial 59 restaurants found to be posting calories in 2017, the study team obtained information from site visits or Yelp searches in October and November 2019.

For all noncompliant restaurants, in-person visits or assessments of Yelp photos in January 2019 and again in November 2019 confirmed ongoing non-compliance with labelling.

3 | RESULTS

Of the 197 chains examined, including the 59 previously determined to be compliant but reassessed in 2019, 186 (94%) had implemented calorie labelling after May 2018 (Table 2), and 11 (6%) restaurants were noncompliant with the federal rule. Sbarro was found to be non-compliant in this most recent search; in 2017, it was listed as compliant, likely because of incorrect or incomplete information received from chain employees during the 2017 search. Most of the non-compliant restaurant chains were full-service restaurants (n=6); full service was a compilation of the family dining, casual dining, and fine dining market segments. The remaining noncompliant chains were quick-service (n=5). Four of the noncompliant quick-service establishments were pizza restaurants.

Among the five market segment categories defined by Technomic, 1 (7% of) family dining restaurants, 5 (9% of) casual dining, and 5 (7% of) quick service were noncompliant (Figure 1). All fast casual and fine-dining restaurants labelled calories on their menus. Across the 16 food-type menu categories, pizza (4 chains, 25%) and

seafood (2, 22%) restaurants were most likely to be noncompliant (Table 3). Despite having a large number of chains each, all burger (22), steak (11), family style (17), and chicken (11) restaurant chains were labelled.

4 | DISCUSSION

Most chain restaurants, regardless of market segment and restaurant type, complied with the federal calorie labelling law in 2018 with some coming into compliance in 2019. The few noncompliant restaurants fell into two categories: full-service restaurants across a range of market segments and restaurant types with less than 100 locations and quick-service pizza and sandwich shops, all with more than 500 US locations.

The pizza industry was among the strongest opponents of the federal calorie mandate, and their relative lack of compliance might reflect ongoing opposition. Pizza chains heavily supported the Common Sense Nutrition Disclosure Act, which would have allowed chains with at least 50% of their business online or by phone to label online only and given chains the authority to set their own serving sizes and locations for posting calories.¹³ This industry has argued for flexibility because of difficulty reporting calorie amounts for foods with many possible combinations and frequently changing menus.¹⁴ As documented in this study, several large franchises with similar customizable and changing menus complied in the required timeframe. At Domino's, a chain that was not labelling, some of their sites had changed over their menu boards to only feature advertisements for their foods; ads are not required to be labelled under the federal rule. They have printed take-out menus with calories labelled, but they are violating the intentions of the law at these sites (in addition to being noncompliant at others where they still had menu boards). Two of the pizza chains (Papa Murphy's for side items and Hungry Howie's for take-out menus) have begun labelling part of their menus but are still not in compliance for all items on their menu boards.

Another point of opposition from some chains is the contention that their restaurants are each unique, making it difficult to comply, even if "doing business under the same name and offering for sale substantially the same menu items," as stated by the regulation.^{1,15} Despite these claims, nearly all chains have complied, and the public is highly supportive of labelling. A 2018 poll found that 80% of Americans surveyed online believed that even pizza restaurants should follow the labelling requirements.¹⁶

The FDA is responsible for enforcing the calorie labelling mandate. Currently, the FDA guidance materials for businesses do not mention enforcement but instead use language that encourages chains to work toward implementation. For example, one FDA document stated that it "intends to focus the first year of compliance on education and outreach and will work flexibly and cooperatively to help industry become more compliant with the final rule."¹⁷ In addressing comments to the final rule, the FDA noted that enforcement will fall under "misbranded food" guidelines within the Food, Drug and Cosmetics Act of 1938, but stated that "nevertheless, enforcement will be considered on a case-by-case basis depending on

the specific facts and circumstances." The 1-year grace period has ended, and the FDA is now in a position to pursue enforcement.

There were several limitations to this study. The research team was only able to visit a convenience sample of locations, with only one visit made to several chains. The team did not visit five chains because of the regions of the country where the chains were located and instead relied on information available online. As a result, information on whether a chain had variable implementation of labelling was not available. The team discovered some chains that had variable implementation, but variability was mostly due to the timing of visits; some chains implemented labelling later, and more recent visits found consistent labelling. A more extensive survey would be required to determine differential compliance in chains. It is also possible that some chains labelled as noncompliant had a few sites that were labelling; however, chains that were classified as noncompliant were assessed several times after May 2018; if a chain was later found to be labelling, they were considered compliant.

After years of delays for this federal requirement, chain restaurants have had substantial time to comply with the menu calorie labelling law. Nearly all chain restaurants are complying; 11 of the top 197 chains were not. Because of the widespread adoption and the end of their stated 1-year grace period, the FDA should develop a strategy to monitor and compel compliance among those chains not presently labelling. Such a strategy is needed to continue to educate the public and to ensure fair play among sometimes competing restaurant chains.

FUNDING

This study was funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of the US National Institutes of Health (R01DK115492, PI: Block).

CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to report.

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How to cite this article: Cleveland LP, Simon D, Block JP. Federal calorie labelling compliance at US chain restaurants. *Obes Sci Pract*. 2020;6:207-214. <https://doi.org/10.1002/osp4.400>

APPENDIX A

Samples of photos of compliant and noncompliant US chain restaurant menus

Ex. 1: Big Boy

Photo A: Big Boy (Ann Arbor, MI) – labelled in 2019

Photo B: Big Boy (Ann Arbor, MI) not labelled in 2018

Ex. 2: Domino's Pizza

Photo A: Domino's Pizza (Boston, MA) – not labelled in 2019

Photo B: Domino's Pizza (Swampscott, MA) – not labelled in 2018

Ex. 3: Papa Murphy's

Photo A: Papa Murphy's (Richfield, MN), not labelled in 2019

Photo B: Papa Murphy's (Madison, WI), not labelled in 2018

Ex. 4: Kona Grill

Photo A: Kona Grill (Baton Rouge, LA), not labelled in 2018

Ex. 5: Bertucci's

Photo A: Bertucci's (Burlington, MA), labelled in 2018