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Center for Weight & Health

Center Information Sheet

Potential Impact of Menu Labeling of Fast Foods in California

California, like the rest of the nation, is experiencing an obesity epidemic. Today, nearly 60% of Californians are either overweight or obese.[1] This epidemic did not occur overnight. Over the past decade Californians on average have gained about one pound per year.[2]

In the midst of the obesity epidemic, Americans now eat one billion meals a week outside the home.[3] Restaurant dining has become more frequent in California and across the nation, among people of all incomes, ethnic and racial backgrounds. In 2006, Americans spent almost half (48 percent) of their food dollars on foods prepared outside the home, in comparison to 26 percent in 1970.[4] **The largest single source of food consumed away from home is fast food.**[5] In California alone there are an estimated 15,000 fast food establishments, nearly four times as many

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as there are grocery stores in the state.[6] Given these trends, it is not surprising that adults now consume three times the calories from fast food than did their parents just two decades earlier.[7]

Fast food restaurants are more likely to be found in low-income neighborhoods and near low-income schools. Poorer neighborhoods have greater access to fast food and less access to supermarkets.[8,9] In a new California study, nearly two-thirds of schools (65 percent) had a fast food restaurant within 1/6 of a mile of campus. Schools in low-income neighborhoods had even more fast food restaurants nearby than schools in higher income areas.[10]

According to a recent national survey, over one quarter (26.5 percent) of adults eat fast food on any given day, consuming **approximately 200 calories more on days when fast food is eaten**.[11] In a 2007 consumer survey of Californians 16-64 years of age, 82% of California adults in the five largest market areas in California – Fresno, Los Angeles, Sacramento, San Diego, and San Francisco – made fast food purchases at least once per month. These fast food consumers made fast food purchases an average of 14.9 times per month, the equivalent of 3.4 times per week.[12]

Estimating the caloric content of foods is difficult for consumers

Research shows that **consumers routinely underestimate the calories in food**.[13,14,15,16,17] Even nutrition professionals underestimate the calories contained in meals typically available at fast food restaurants – by 200 to 600 calories.[18] One reason it is challenging to estimate the calories in fast food, is that there is a wide range of calories contained in very similar products. For example, one popular fast food restaurant offers six similarly sized chicken sandwiches (from 8 ounces to 9 ounces) with a range of calories from 420 to 630 calories (**Table 1**), depending on whether they are grilled or fried, or have added bacon and other ingredients. Based on this example, providing helpful information to consumers could allow consumers to save up to 210 calories, while still eating a similar product.

Table 1. Variation in Calorie Content of Similarly Sized Chicken Sandwiches at a Fast Food Restaurant [20]			
Item		**Serving Size (in ounces)**	**Calories**
Grilled Regular Chicken Sandwich		8	420
Grilled Chicken BLT Sandwich		8.3	470
Breaded Regular Chicken Sandwich		8.1	530
Breaded Chicken BLT Sandwich		8.5	580
Breaded Chicken Club Sandwich		9	630

Small differences in calories of food selections can add up quickly given the large number of fast food visits in California. For example, a savings of approximately 3,100 calories in a month could be achieved if on each of 3.4 weekly visits, the average adult fast food consumer selects a grilled chicken sandwich instead of breaded chicken club sandwich. Similarly, two hamburger sandwiches of virtually the same serving size (a difference of 0.3 oz) at the same fast food restaurant differ by 80 calories, which could total to a savings of ~1,200 calories over a month, with an average of 3.4 weekly visits.

Similar items can differ greatly in size – even at the same chain. In addition to differences in preparation and added ingredients, menu items can differ greatly by portion size. Information about portion sizes of items is typically not specified or visible at point of purchase. **Table 2** lists the calorie content and portion sizes of different burgers found in quick serve restaurants. Without either portion size or calorie information on menu boards, a consumer would find it difficult if not impossible to accurately estimate the calorie content of menu items.

Even when nutrition information is provided, it is often not readily accessible. In a 2006 study of a major fast food chain in Washington, DC, it was necessary to ask two or more employees in order to obtain nutrition information in 62 percent of the outlets sampled.[19] No outlet displayed information on menu boards where it could be readily seen when placing an order. Of the 59 percent of outlets that did provide in-store nutrition information for the majority of menu items, the most common venue used was the back of tray

liners (43 percent) typically distributed after food is received, and pamphlets (43 percent). The other 14 percent used other means such as on-site posters.

Table 2. Variation in Calorie Content of Fast Food Burgers of Different Size [20]

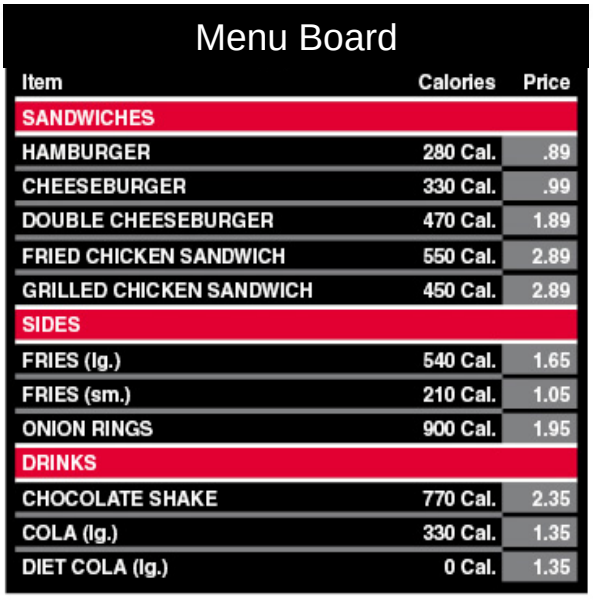
Item	Serving Size (in ounces)	Calories
Regular Burger	3.5	250
Regular Cheeseburger	4	300
Large Burger	6	410
Extra Cheese Burger	5.8	440
Large Cheeseburger	7	510
Extra Large Burger	7.5	540
Extra Large Cheeseburger	9.8	740

People use nutrition information to help them make decisions about what to eat

Nutrition labeling of packaged foods has been mandated by the FDA since the 1990s. Nearly three out of four American adults use nutrition information on food labels of packaged foods, including calorie information.[21,22] **Almost one half (48 percent) of American adults report that reading the nutrition information on food labels helped them change their purchasing habits**.[23]

Basic nutrition information is helpful for healthy menu planning both at home and in restaurants. Two-thirds of Americans in representative public opinion polls said they support requiring restaurants to list nutrition information.[24,25] **In California, 84% of a representative sample of adults support requiring fast-food and chain restaurants to post nutritional information on menus and menu boards**.[26] Menu labeling is also supported by leading health organizations and consumers across the nation.[27]

Typically in fast food restaurants consumers rarely see or obtain nutrition information. In a recent study of over 7,000 patrons of 11 large fast food chains in New York City, only 4% of patrons saw calorie information when ordering food, even though it was available in brochures placed at condiment tables, on posters hung on a restaurant wall, or posted on the Internet.[28]



Potential benefits of menu labeling in California

Changing consumer behavior to prevent weight gain

A 2008 study conducted at a fast food chain restaurant found that 32% of customers reported seeing calorie information posted on the splash guard (in front of ingredients used to make sandwiches) and that they purchased meals averaging 52 fewer calories than customers who did not see the calorie information. Among customers who said they used the calorie information, their meals averaged 99 calories lower than those who reported not using it.[28]

Virtuous cycle – product reformulation to reduce calories

Calorie labeling at fast food chains could start a "virtuous cycle."[29] Restaurants may begin to introduce lower calorie items and smaller portion sizes so that consumers will have a greater variety of lower calorie choices. Based on experiences with the Nutrition Labeling Act for packaged foods, and recent legislation to include trans fatty acids on labels, companies were shown to be able to change formulation in ways that promote health and also maintain product appeal.[28]

In response to consumer health concerns and legislative action such as the trans fatty acid bans, fast food companies have already begun to reduce the use of hydrogenated oils.[30] Similarly, a new law in New York City requiring calorie labeling on menus has resulted in some restaurants making beneficial changes to their offerings.[31] Possible reformulations include changing ingredients (including condiments), changing cooking methods, and reducing portion sizes of menu items.

Using calorie information at fast food restaurants can help Californians to avoid gaining millions of pounds

To help illustrate a range of possible outcomes from menu labeling, **Table 3** provides a variety of scenarios based on different possibilities about the percentage of people who frequent fast food restaurants and notice calorie information. For all scenarios, the decrease in calories purchased is held at 52 calories per visit based on the impact measured in the New York City study described above.[28] Smaller reductions in daily calorie intake and resultant weight could occur if compensatory increases in intake were to occur at other times of day. However, greater reductions in calories and weight would likely be seen with product reformulation and portion size changes. ***If 80% of adult customers notice calorie information on menu boards in California, and reduce calories in their purchases by 52 calories per visit, for example, this could result in an average annual weight gain avoided of 2.1 pounds per adult who frequents fast food restaurants.***

Table 3. Spectrum of Potential Impact of Calorie Labeling on Average Weight of Adults Who Frequent Fast Food Restaurants in California in Relation to Percentage of Patrons who Observe Calorie Information*

Scenario	Patrons observing calorie information (%)	Projected average weight change for adults who frequent fast food restaurants† (pounds/person)
No patrons see menu board labels	0	0.0
Few patrons see menu board labels‡	4	-0.1
Minority of patrons see menu board labels §	32	-0.9
Majority of patrons see menu board labels	80	-2.1
All patrons see menu board labels	100	-2.7

* Based on 3.4 visits/week by the 82% of California residents that visit a fast food restaurant on a given month - assuming situation continues for 1 year from Reference 12.

† Using 52 calorie reduction/visit for patrons observing calorie information from Reference 28 and value of 3500 calories to prevent 1 pound of weight gain from Reference 33.

‡ Equivalent to percentage of customers at chain restaurants noticing calorie information from posters and brochures from Reference 28.

§Equivalent to documented customer awareness of nutritional information posted on a splash guard from Reference 28.

Table 4 illustrates potential weight changes based on frequency of fast food visits for individuals who observe and respond to calorie menu labeling in a similar fashion to the New York Study (i.e., decrease consumption by an uncompensated 52 calories per visit). For example, for an individual who eats fast food 3.4 times per week (the average for 82% of California adults), an estimated 2.7 pounds per year less weight would be expected if calorie labels are in place compared to if menus are not labeled. For an individual who eats fast food 7 times per week, the corresponding annual weight savings is 5.4 pounds.

Table 4. Spectrum of Potential Impact of Calorie Labeling on Average Weight of an Adult in Relation to Frequency of Fast Food Visits†

Fast Food Visits (times/week)	**Projected average annual weight change for an adult who frequents fast food restaurants†** (pounds/person)
1	-0.8
2	-1.5
3.4	-2.7
7	-5.4

†Using 52 calorie reduction/visit for patrons observing calorie information from Reference 28 and value of 3500 calories to prevent 1 pound of weight gain from Reference 33.

As **Figure 1** illustrates, the hypothetical scenarios presented to estimate changes in fast food customers can also be analyzed taking into account the entire population of the state of California. For example, if 80% of fast food customers observed posted calorie labeling then a total of approximately 40 million pounds of weight gain per year could be prevented among all adults in the state. If all of fast food customers observed the calorie labeling then an estimated 50 million pounds of weight gain would be prevented.

Figure 1. Spectrum of Potential Impact of Calorie Labeling on Weight of Entire Adult Population in California (Based on estimation of 52 calorie reduction per purchase[28] and the current California adult population[32])

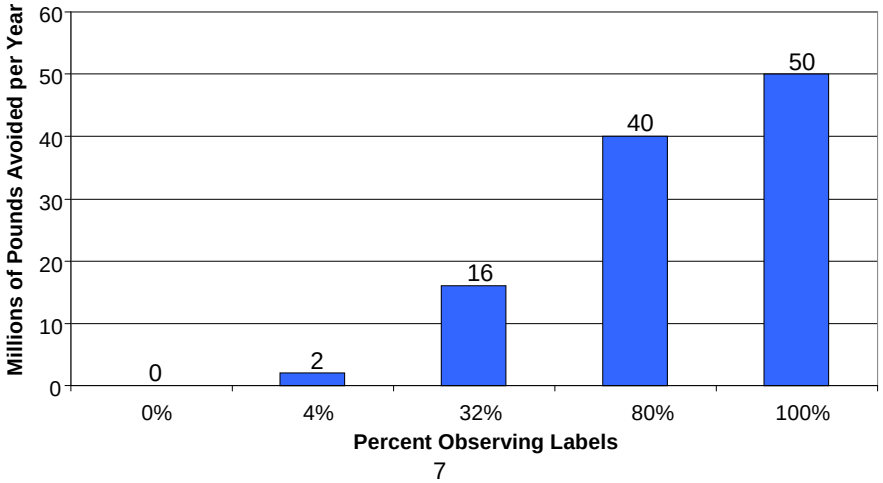
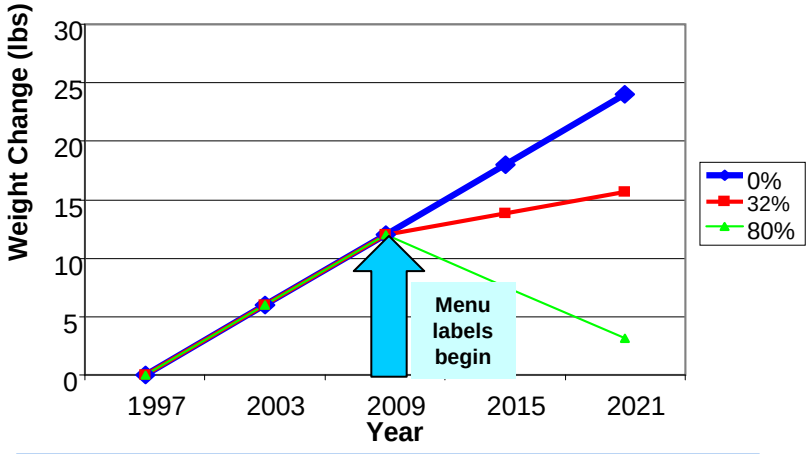


Figure 2 models the impact of different menu labeling scenarios on weight gain in Californian adults over time. The blue line represents the projection of continuing trends without any changes in caloric intake.[2] The red line represents the projection of changes made if menu labels were in place, and 32% of fast food customers in California noticed this information and changed their purchases to consume 52 fewer calories per visit. The green line models the impact of 80% of fast food customer making this change. Obviously the higher the number of people able to see calorie information and make even modest changes, the higher the potential to impact obesity rates. **If a sizeable proportion of fast food customers were to see calorie information and make a modest change in caloric intake as a result, this choice could have a dramatic impact on weight gain for the state.**

Figure 2. Weight Change of Average California Adult Since 1997 Based on Several Menu Labeling Scenarios

(Actual 1997-2003, Projected 2003-2021)



Conclusion: Menu Labeling Provides an Opportunity to Change the Course of the Obesity Epidemic in California

Posting calories on menus and menu boards would provide visible, easy-to-locate information to consumers. For an individual fast food consumer, responding to calorie content on menu boards at every fast food visit could translate into a decrease of over two pounds of weight per year (**Table 5**). If 80% of Californians see calorie menu labels at fast food chains, and make changes similar to those documented in the literature, this could result, on a population level, in an annual weight loss of nearly one pound per person per year for Californians -- compared to the current average weight gain of about one pound per year (**Table 6**). Menu board labeling thus has the potential to dramatically reverse the trajectory of the obesity epidemic in California.

Table 5. Estimated impact on an individual fast food consumer who sees calorie content posted on menu boards on all fast food visits		
Description	**Number**	**Data Source**
a) Fast food visits per person who regularly eats at fast food restaurants	14.9 Visits per month	Reference 12
b) Months	12 per year	
c) Change (decrease) in calories purchased	- 52 Calories per visit	Reference 28
d) Caloric equivalent of body weight	3500 Calories per pound	Reference 33
e) Estimated average weight change for adult fast food customers who see calorie information on menu boards	- 2.7 Pounds per year	$\frac{(a) \times (b) \times (c)}{(d)}$

Table 6. Possible statewide impact of posting calorie content on fast food menu boards		
Description	**Number**	**Data Source**
a) Estimated average weight change for adult fast food customers who see calorie information on menu boards	- 2.7 Pounds per year for all fast food customers	From Table 5 (e)
b) Estimated average weight change for all fast food customers (if estimating that 80% of fast food customers see calorie information on menu boards)	- 2.1 Pounds per year for all fast food customers	(a) x 80%
c) Estimated average weight change for all California adults (if 80% notice menu labels and 82% of Californians age 16-64 years regularly eat at fast food restaurants)	- 1.7 Pounds per year for all California adults	(b) x 82%
d) Average weight change for California adults **prior** to menu labeling	+ 1.0 Pounds per person per year	Reference 2
e) Estimated average weight change for California adults **after** menu labeling	- 0.7 Pounds per person per year	(c) + (d)
f) Estimated total weight change for 23 million California adults	- 40 million pounds annually	(c) x 23 million from Reference 32

Qualifications: This Information Sheet was created using the best available published evidence, which to date is limited. We recognize that there are differences in methodology and population samples among studies, and caution must be taken when generalizing to the larger population. Therefore this paper provides a variety of scenarios for discussion, using conservative estimates of consumer behavior change and a full spectrum of possibilities on the percentage of customers noticing calorie information. Weight estimations were based on Behavioral Risk Factor Surveillance data for 1999-2003 for adults, 18 years of age and over. California's population size was based on adults 18-64 years of age for the year 2006. Potential compensatory increases in intake were not included in scenarios. Possible impact of product reformulation was also not included in scenarios.

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