



The Association Between Restaurant Menu Label Use and Caloric Intake

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What Is the Issue?

In 2014, the U.S. Food and Drug Administration finalized the Federal menu-labeling regulations that were set forth in the Patient Protection and Affordable Care Act of 2010. These regulations, which took effect in May 2018, require certain restaurants and retail food service establishments that are part of a chain of 20 or more locations nationwide to post the calorie content of all standard items on menus in a font and format similar to that of the item's price or name. Between 2008 and 2011, several State and local governments implemented mandatory menu-labeling regulations. Numerous studies have examined whether the increased availability of calorie information in chain restaurants resulting from these regulations induced consumers to purchase fewer calories than they might have without the information. However, much less is known about whether and how much the average daily caloric intake of individuals who recently *saw and used* menu labels differs from that of individuals who *saw but chose not to use* them. Individuals who see nutrition information on restaurant menus may find the information to be useful for calorie consumption decisions not only inside that restaurant setting but also for managing their calorie intake later in the day at home or in other food service establishments. This study compares the average total and source-specific daily caloric intakes of adults who saw nutrition information about foods on a menu during their last visit to a restaurant and then used the information to decide which foods to buy ("users") with that of an arguably comparable group of adults, those who noticed the information but chose not to use it ("nonusers"). These individuals make up a policy-relevant subpopulation as they were recently in a position to inform their food choices with nutrition information observed in a real-world restaurant setting.

What Did the Study Find?

During 2007-14, about 29 percent of U.S. adults age 20 and older who reported buying food from fast-food or pizza places ("fast-food restaurant") in the past 12 months saw nutrition information about foods on a menu during their last visit to a fast-food restaurant.

- About 44 percent of the individuals who saw menu labels in fast-food restaurants reported using the nutrition information provided to decide which foods to buy during that last visit.

Based on data from two self-reported, nonconsecutive, 24-hour dietary recall interviews, when total and source-specific 2-day mean daily calorie intakes were compared among the adults who saw menu labels in fast-food restaurants at some point in the past 12 months:

- Fast-food restaurant menu-label users consumed about 180 fewer total calories per day than did nonusers.

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- Furthermore, among individuals who reported eating fast food during at least one of their dietary recall periods, those who used menu labels consumed about 69 fewer fast-food calories than did nonusers.
- To the extent that recent use of fast-food menu labels reflects typical behavior, these findings suggest that the total daily energy intake gap between fast-food restaurant menu-label users and nonusers may be partly attributable to food choices made in fast-food restaurants that post nutrition information on menus.

During 2007-14, about 22 percent of U.S. adults age 20 and older who reported eating at a restaurant with waiter or waitress service (“sit-down restaurant”) in the previous 12 months saw nutrition information about foods on a menu during their last visit to a sit-down restaurant.

- About 48 percent of the individuals who saw menu labels in sit-down restaurants reported using the nutrition information provided to decide which foods to buy during that last visit.

Based on data from two self-reported, nonconsecutive, 24-hour dietary recall interviews, when total and source-specific 2-day mean daily calorie intakes were compared among the adults who saw menu labels in sit-down restaurants at some point in the past 12 months:

- Sit-down restaurant menu label users consumed about 167 fewer total calories per day than did nonusers.
- Furthermore, among individuals who ate food at sit-down restaurants during at least one of their dietary recall periods, those who used menu labels consumed about 99 fewer sit-down-restaurant calories than did nonusers.
- To the extent that recent use of sit-down menu labels reflects typical behavior, these findings suggest that the total daily energy intake gap between sit-down restaurant menu label users and nonusers may be partly attributable to food choices made in sit-down restaurants that post nutrition information on menus.

Fast-food and sit-down restaurant menu label uses are both significantly associated with lower total daily caloric intake, and the associations are estimated to be of similar magnitudes. Findings also suggest that the total daily intake gap between restaurant menu label users and nonusers may be partly attributable to restaurant menu label users’ lower intake of calories from restaurants that post nutrition information on menus. Taken together, these findings suggest that nutrition information on restaurant menus may be helping some consumers to align their food orders according to their demand for lower calories which, in turn, is also helping them to keep their total daily caloric intake lower relative to consumers who see but do not use the information.

How Was the Study Conducted?

This study uses data from the only nationally representative survey containing information on consumer use of point-of-purchase nutrition information on fast-food and sit-down restaurant menus: The National Health and Nutrition Examination Survey (NHANES), which is conducted by the Centers for Disease Control and Prevention’s National Center for Health Statistics. Specifically, the study uses data from the 2007-08, 2009-10, and 2013-14 cycles of the Flexible Consumer Behavior Survey module of NHANES. These cycles span the period over which several State and local restaurant menu-labeling regulations were implemented. Since calorie intake on a single day provides only a snapshot of consumers’ dietary behavior, the analysis made use of average intakes from two self-reported, nonconsecutive, 24-hour dietary recall interviews in an effort to estimate their usual, or long-run, daily caloric intake. Ordinary least squares regressions were used to analyze the association between restaurant menu-label use and total and source-specific 2-day mean daily caloric intakes among U.S. adults who saw nutrition information on a restaurant menu the last time they visited a restaurant. The daily caloric intakes of restaurant menu label users and nonusers were estimated while controlling for demographic and socioeconomic characteristics, as well as interview-related factors (e.g., whether an adult’s calorie intake information refers to a weekday or weekend). Of note is that the empirical strategy did not exploit a random source of variation in the availability of nutrition information on point-of-purchase menus, so the regression coefficient estimates reported here do not necessarily represent causal relationships running from restaurant menu label use to total daily caloric intake.